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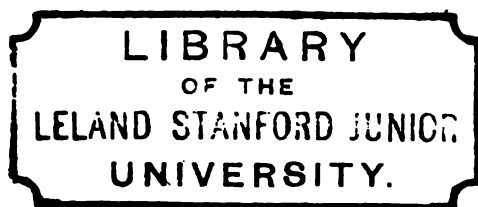




MESSAGE
FROM THE
PRESIDENT OF THE UNITED STATES
TO THE
TWO HOUSES OF CONGRESS
AT THE COMMENCEMENT OF THE
FIRST SESSION OF THE FIFTIETH CONGRESS,
WITH THE
REPORTS OF THE HEADS OF DEPARTMENTS
AND
SELECTIONS FROM ACCOMPANYING DOCUMENTS.

EDITED BY
W. H. MICHAEL.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
381—AB 87 1888.



A. 8084

Prepared in accordance with the provisions of the Revised Statutes, approved June 23, 1874.

SEC. 75. The Joint Committee on Public Printing shall appoint a competent person, who shall edit such portion of the documents accompanying the annual report of the Departments as they may deem suitable for popular distribution, and prepare an alphabetical index thereto.

SEC. 196. The head of each Department, except the Department of Justice, shall furnish to the Congressional Printer copies of the documents usually accompanying his annual report on or before the first day of November in each year, and a copy of his annual report on or before the third Monday of November in each year.

SEC. 3798. Of the documents named in this section there shall be printed and bound in addition to the usual number for Congress, the following numbers of copies, namely:

Second. Of the President's message, the annual reports of the Executive Departments, and the abridgment of accompanying documents, unless otherwise ordered by either house, ten thousand copies for the use of the members of the Senate and two thousand five hundred copies for the use of the members of the House of Representatives.

NOTE.

In accordance with sections 75, 196, and 3798 of the Revised Statutes the message of the President, the annual reports of the Departments, and an abridgment of the documents accompanying the annual reports are printed in convenient form for popular distribution. The work of editing is intrusted to a suitable person appointed by the Joint Committee on Printing. Properly arranged, abridged, and indexed the work is of great value and supplies a need that no other public document can. The editor has aimed to make the abridgment cover the ground traversed by the papers accompanying the annual reports, and no effort has been spared to make the index full and convenient. Nearly fifteen thousand pages of printed matter have been carefully gone over in the preparation of the work, and it is believed that nothing has been omitted that would add to the completeness of it. The abridgment embraces the following reports :

- Report of the Treasurer of the United States.
- Report of the Director of the Mint.
- Report of the Commissioner of Internal Revenue.
- Report of the Comptroller of the Currency.
- Report of the Chief of the Bureau of Engraving and Printing.
- Report of the Comptroller of the Treasury.
- Report of the Second Comptroller of the Treasury.
- Report of the Commissioner of Customs.
- Report of the First, Second, Third, Fourth, and Fifth Auditors of the Treasury.
- Report of the Auditor of the Treasury of the Post-Office Department.
- Report of the Register of the Treasury.
- Report of the Lieutenant-General of the Army.
- Report of the Adjutant-General.
- Report of the Inspector-General.
- Report of Major-General Schofield.
- Report of Major-General Terry.
- Report of Major-General Howard.
- Report of the Acting Judge-Advocate-General.
- Report of the Quartermaster-General.
- Report of the Commissary General of Subsistence.
- Report of the Surgeon-General.
- Report of the Paymaster-General.
- Report of the Chief Engineer.
- Report of the Chief of Ordnance.
- Report of the Publication of War Records.
- Report of the Admiral of the Navy.
- Report of the Superintendent United States Naval Academy.
- Report of the Chief of Bureau of Yards and Docks.

Report of the Chief of Bureau of Equipment and Recruiting
 Report of the Chief of Bureau of Navigation.
 Report of the Chief of Bureau of Ordnance.
 Report of the Bureau of Construction and Repair.
 Report of the Chief of Bureau of Steam Engineering.
 Report of the Chief of Bureau of Provisions and Clothing
 Report of the Chief of Bureau of Medicine and Surgery.
 Report of the Commander of the Marine Corps.
 Report of the Commissioner of Indian Affairs.
 Report of the Commissioner of General Land Office.
 Report of the Commissioner of Patents.
 Report of the Commissioner of Education.
 Report of the Interstate Commerce Commission.
 Report of the First, Second, and Third Assistant Postmasters-General.
 Report of the Superintendent of Railway Mail Service.
 Report of the Superintendent of Dead-Letter Office
 Report of the Superintendent of Postal Money-Order System.
 Report of the Superintendent of Foreign Mails.
 Report of the Auditor of the Treasury for the Post-Office Department.
 Report of the Commissioner of Agriculture.

Following are quotations from the Revised Statutes authorizing the preparation of this volume:

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W. H. MICHAEL,
Clerk of Printing Records.

CAPITOL, July 28, 1888

MESSAGE.

To the Congress of the United States:

You are confronted at the threshold of your legislative duties, with a condition of the national finances which imperatively demands immediate and careful consideration.

The amount of money annually exacted, through the operation of present laws, from the industries and necessities of the people, largely exceeds the sum necessary to meet the expenses of the Government.

When we consider that the theory of our institutions guarantees to every citizen the full enjoyment of all the fruits of his industry and enterprise, with only such deduction as may be his share towards the careful and economical maintenance of the Government which protects him, it is plain that the exaction of more than this is indefensible extortion, and a culpable betrayal of American fairness and justice. This wrong inflicted upon those who bear the burden of national taxation, like other wrongs, multiplies a brood of evil consequences. The public treasury, which should only exist as a conduit conveying the people's tribute to its legitimate objects of expenditure, becomes a hoarding-place for money needlessly withdrawn from trade and the people's use, thus crippling our national energies, suspending our country's development, preventing investment in productive enterprise, threatening financial disturbance, and inviting schemes of public plunder.

This condition of our treasury is not altogether new; and it has more than once of late been submitted to the people's representatives in the Congress, who alone can apply a remedy. And yet the situation still continues, with aggravated incidents, more than ever presaging financial convulsion and wide-spread disaster.

It will not do to neglect this situation because its dangers are not now palpably imminent and apparent. They exist none the less certainly, and await the unforeseen and unexpected occasion when suddenly they will be precipitated upon us.

On the 30th day of June, 1885, the excess of revenues over public expenditures after complying with the annual requirement of the sinking-fund act, was \$17,859,735.84; during the year ended June

30, 1886, such excess amounted to \$49,405,545.20; and during the year ended June 30, 1887, it reached the sum of \$55,567,849.54.

The annual contributions to the sinking-fund during the three years above specified, amounting in the aggregate to \$138,058,320.96, and deducted from the surplus as stated, were made by calling in for that purpose outstanding three per cent. bonds of the Government. During the six months prior to June 30, 1887, the surplus revenue had grown so large by repeated accumulations, and it was feared the withdrawal of this great sum of money needed by the people, would so affect the business of the country, that the sum of \$79,864,100 of such surplus was applied to the payment of the principal and interest of the three per cent. bonds still outstanding and which were then payable at the option of the Government. The precarious condition of financial affairs among the people still needing relief, immediately after the 30th day of June, 1887, the remainder of the three per cent. bonds then outstanding, amounting with principal and interest to the sum of \$18,877,500, were called in and applied to the sinking-fund contribution for the current fiscal year. Notwithstanding these operations of the Treasury Department representations of distress in business circles not only continued but increased, and absolute peril seemed at hand. In these circumstances the contribution to the sinking fund for the current fiscal year was at once completed by the expenditure of \$27,684,283.55; the purchase of Government bonds not yet due bearing four and a-half per cent. interest, the premium paid thereon averaging about twenty-four per cent. for the former and eight per cent. for the latter. In addition to this the interest accruing during the current year upon the outstanding bonded indebtedness of the Government was to some extent anticipated, and banks selected as depositories of public money were permitted to somewhat increase their deposits.

While the expedients thus employed, to release to the people the money lying idle in the Treasury, served to avert immediate danger, our surplus revenues have continued to accumulate, the excess for the present year amounting on the 1st day of December \$55,258,701.19, and estimated to reach the sum of \$113,000,000 on the 30th of June next, at which date it is expected that this sum added to prior accumulations, will swell the surplus in the Treasury to \$140,000,000.

There seems to be no assurance that, with such a withdrawal from use of the people's circulating medium, our business community may not in the near future be subjected to the same distress which was quite lately produced from the same cause. And while the

functions of our National Treasury should be few and simple, and while its best condition would be reached, I believe, by its entire disconnection with private business interests, yet when, by a perversion of its purposes, it idly holds money uselessly subtracted from the channels of trade, there seems to be reason for the claim that some legitimate means should be devised by the Government to restore in an emergency, without waste or extravagance, such money to its place among the people.

If such an emergency arises there now exists no clear and undoubted executive power of relief. Heretofore the redemption of three per cent. bonds, which were payable at the option of the Government, has afforded a means for the disbursement of the excess of our revenues; but these bonds have all been retired, and there are no bonds outstanding the payment of which we have the right to insist upon. The contribution to the sinking fund which furnishes the occasion for expenditure in the purchase of bonds has been already made for the current year, so that there is no outlet in that direction.

In the present state of legislation the only pretense of any existing executive power to restore, at this time, any part of our surplus revenues to the people by its expenditure, consists in the supposition that the Secretary of the Treasury may enter the market and purchase the bonds of the Government not yet due, at a rate of premium to be agreed upon. The only provision of law from which such a power could be derived is found in an appropriation bill passed a number of years ago; and it is subject to the suspicion that it was intended as temporary and limited in its application, instead of conferring a continuing discretion and authority. No condition ought to exist which would justify the grant of power to a single official, upon his judgment of its necessity, to withhold from or release to the business of the people, in an unusual manner money held in the Treasury, and thus affect at his will, the financial situation of the country; and if it is deemed wise to lodge in the Secretary of the Treasury the authority in the present juncture to purchase bonds, it should be plainly vested, and provided as far as possible, with such checks and limitations as will define this official's right and discretion, and at the same time relieve him from undue responsibility.

In considering the question of purchasing bonds as a means of restoring to circulation the surplus money accumulating in the Treasury, it should be borne in mind that premiums must of course be paid upon such purchase, that there may be a large part of these bonds held as investments which cannot be purchased at any price,

and that combinations among holders who are willing to sell, may unreasonably enhance the cost of such bonds to the Government.

It has been suggested that the present bonded debt might be refunded at a less rate of interest, and the difference between the old and new security paid in cash, thus finding use for the surplus in the Treasury. The success of this plan, it is apparent, must depend upon the volition of the holders of the present bonds; and it is not entirely certain that the inducement which must be offered them would result in more financial benefit to the Government than the purchase of bonds, while the latter proposition would reduce the principal of the debt by actual payment, instead of extending it.

The proposition to deposit the money held by the Government in banks throughout the country, for use by the people, is, it seems to me, exceedingly objectionable in principle, as establishing too close a relationship between the operations of the Government Treasury and the business of the country, and too extensive a commingling of their money, thus fostering an unnatural reliance in private business upon public funds. If this scheme should be adopted it should only be done as a temporary expedient to meet an urgent necessity. Legislative and executive effort should generally be in the opposite direction and should have a tendency to divorce, as much and as fast as can safely be done, the Treasury Department from private enterprise.

Of course it is not expected that unnecessary and extravagant appropriations will be made for the purpose of avoiding the accumulation of an excess of revenue. Such expenditure, beside the demoralization of all just conceptions of public duty which it entails, stimulates a habit of reckless improvidence not in the least consistent with the mission of our people or the high and beneficent purposes of our Government.

I have deemed it my duty to thus bring to the knowledge of my countrymen, as well as to the attention of their representatives charged with the responsibility of legislative relief, the gravity of our financial situation. The failure of the Congress heretofore to provide against the dangers which it was quite evident the very nature of the difficulty must necessarily produce, caused a condition of financial distress and apprehension since your last adjournment, which taxed to the utmost all the authority and expedients within executive control; and these appear now to be exhausted. If disaster results from the continued inaction of Congress, the responsibility must rest where it belongs.

Though the situation thus far considered is fraught with danger which should be fully realized, and though it presents features of

wrong to the people as well as peril to the country, it is but a result growing out of a perfectly palpable and apparent cause, constantly reproducing the same alarming circumstances—a congested national treasury and a depleted monetary condition in the business of the country. It need hardly be stated that while the present situation demands a remedy, we can only be saved from a like predicament in the future by the removal of its cause.

Our scheme of taxation, by means of which this needless surplus is taken from the people and put into the public treasury, consists of a tariff or duty levied upon importations from abroad, and internal-revenue taxes levied upon the consumption of tobacco and spirituous and malt liquors. It must be conceded that none of the things subjected to internal-revenue taxation are, strictly speaking, necessities; there appears to be no just complaint of this taxation by the consumers of these articles, and there seems to be nothing so well able to bear the burden without hardship to any portion of the people.

But our present tariff laws, the vicious, inequitable, and illogical source of unnecessary taxation, ought to be at once revised and amended. These laws, as their primary and plain effect, raise the price to consumers of all articles imported and subject to duty, by precisely the sum paid for such duties. Thus the amount of the duty measures the tax paid by those who purchase for use these imported articles. Many of these things, however, are raised or manufactured in our own country, and the duties now levied upon foreign goods and products are called protection to these home manufactures, because they render it possible for those of our people who are manufacturers, to make these taxed articles and sell them for a price equal to that demanded for the imported goods that have paid customs duty. So it happens that while comparatively a few use the imported articles, millions of our people, who never use and never saw any of the foreign products, purchase and use things of the same kind made in this country, and pay therefor nearly or quite the same enhanced price which the duty adds to the imported articles. Those who buy imports pay the duty charged thereon into the public treasury, but the great majority of our citizens, who buy domestic articles of the same class, pay a sum at least approximately equal to this duty to the home manufacturer. This reference to the operation of our tariff laws is not made by way of instruction, but in order that we may be constantly reminded of the manner in which they impose a burden upon those who consume domestic products as well as those who consume imported articles, and thus create a tax upon all our people.

It is not proposed to entirely relieve the country of this taxation. It must be extensively continued as the source of the Government's income; and in a readjustment of our tariff the interests of American labor engaged in manufacture should be carefully considered, as well as the preservation of our manufacturers. It may be called protection, or by any other name, but relief from the hardships and dangers of our present tariff laws, should be devised with especial precaution against imperiling the existence of our manufacturing interests. But this existence should not mean a condition which, without regard to the public welfare or a national exigency, must always insure the realization of immense profits instead of moderately profitable returns. As the volume and diversity of our national activities increase, new recruits are added to those who desire a continuation of the advantages which they conceive the present system of tariff taxation directly affords them. So stubbornly have all efforts to reform the present condition been resisted by those of our fellow-citizens thus engaged, that they can hardly complain of the suspicion, entertained to a certain extent, that there exists an organized combination all along the line to maintain their advantage.

We are in the midst of centennial celebrations, and with becoming pride we rejoice in American skill and ingenuity, in American energy and enterprise, and in the wonderful natural advantages and resources developed by a century's national growth. Yet when an attempt is made to justify a scheme which permits a tax to be laid upon every consumer in the land for the benefit of our manufacturers, quite beyond a reasonable demand for governmental regard, it suits the purposes of advocacy to call our manufactures infant industries, still needing the highest and greatest degree of favor and fostering care that can be wrung from Federal legislation.

It is also said that the increase in the price of domestic manufactures resulting from the present tariff is necessary in order that higher wages may be paid to our workmen employed in manufactures, than are paid for what is called the pauper labor of Europe. All will acknowledge the force of an argument which involves the welfare and liberal compensation of our laboring people. Our labor is honorable in the eyes of every American citizen; and as it lies at the foundation of our development and progress, it is entitled, without affectation or hypocrisy, to the utmost regard. The standard of our laborers' life should not be measured by that of any other country less favored, and they are entitled to their full share of all our advantages.

By the last census it is made to appear that of the 17,392,099 of our population engaged in all kinds of industries 7,670,493 are em-

ployed in agriculture, 4,074,238 in professional and personal service, (2,934,876 of whom are domestic servants and laborers,) while 1,810,256 are employed in trade and transportation, and 3,837,112 are classed as employed in manufacturing and mining.

For present purposes however, the last number given should be considerably reduced. Without attempting to enumerate all, it will be conceded that there should be deducted from those which it includes 375,143 carpenters and joiners, 285,401 milliners, dressmakers, and seamstresses, 172,726 blacksmiths, 133,756 tailors and tailoresses, 102,473 masons, 76,241 butchers, 41,309 bakers, 22,083 plasterers, and 4,891 engaged in manufacturing agricultural implements, amounting in the aggregate to 1,214,023, leaving 2,623,089 persons employed in such manufacturing industries as are claimed to be benefited by a high tariff.

To these the appeal is made to save their employment and maintain their wages by resisting a change. There should be no disposition to answer such suggestions by the allegation that they are in a minority among those who labor, and therefore should forego an advantage, in the interest of low prices for the majority; their compensation, as it may be affected by the operation of tariff laws, should at all times be scrupulously kept in view; and yet with slight reflection they will not overlook the fact that they are consumers with the rest; that they, too, have their own wants and those of their families to supply from their earnings, and that the price of the necessities of life, as well as the amount of their wages, will regulate the measure of their welfare and comfort.

But the reduction of taxation demanded should be so measured as not to necessitate or justify either the loss of employment by the working man nor the lessening of his wages; and the profits still remaining to the manufacturer, after a necessary readjustment, should furnish no excuse for the sacrifice of the interests of his employés either in their opportunity to work or in the diminution of their compensation. Nor can the worker in manufactures fail to understand that while a high tariff is claimed to be necessary to allow the payment of remunerative wages, it certainly results in a very large increase in the price of nearly all sorts of manufactures, which, in almost countless forms, he needs for the use of himself and his family. He receives at the desk of his employer his wages, and perhaps before he reaches his home is obliged, in a purchase for family use of an article which embraces his own labor, to return in the payment of the increase in price which the tariff permits, the hard-earned compensation of many days of toil.

The farmer and the agriculturist who manufacture nothing, but who pay the increased price which the tariff imposes, upon every agricultural implement, upon all he wears and upon all he uses and owns, except the increase of his flocks and herds and such things as his husbandry produces from the soil, is invited to aid in maintaining the present situation; and he is told that a high duty on imported wool is necessary for the benefit of those who have sheep to shear, in order that the price of their wool may be increased. They of course are not reminded that the farmer who has no sheep is by this scheme obliged, in his purchases of clothing and woollen goods, to pay a tribute to his fellow farmer as well as to the manufacturer and merchant; nor is any mention made of the fact that the sheep-owners themselves and their households, must wear clothing and use other articles manufactured from the wool they sell at tariff prices, and thus as consumers must return their share of this increased price to the tradesman.

I think it may be fairly assumed that a large proportion of the sheep owned by the farmers throughout the country are found in small flocks numbering from twenty-five to fifty. The duty on the grade of imported wool which these sheep yield, is ten cents each pound if of the value of thirty cents or less, and twelve cents if of the value of more than thirty cents. If the liberal estimate of six pounds be allowed for each fleece, the duty thereon would be sixty or seventy-two cents, and this may be taken as the utmost enhancement of its price to the farmer by reason of this duty. Eighteen dollars would thus represent the increased price of the wool from twenty-five sheep and thirty-six dollars that from the wool of fifty sheep; and at present values this addition would amount to about one-third of its price. If upon its sale the farmer receives this or a less tariff profit, the wool leaves his hands charged with precisely that sum, which in all its changes will adhere to it, until it reaches the consumer. When manufactured into cloth and other goods and material for use, its cost is not only increased to the extent of the farmer's tariff profit, but a further sum has been added for the benefit of the manufacturer under the operation of other tariff laws. In the mean time the day arrives when the farmer finds it necessary to purchase woollen goods and material to clothe himself and family for the winter. When he faces the tradesman for that purpose he discovers that he is obliged not only to return in the way of increased prices, his tariff profit on the wool he sold, and which then perhaps lies before him in manufactured form, but that he must add a considerable sum thereto to meet a further increase in cost caused by a tariff duty on the manufacture. Thus in the end he is aroused to

the fact that he has paid upon a moderate purchase, as a result of the tariff scheme, which, when he sold his wool seemed so profitable, an increase in price more than sufficient to sweep away all the tariff profit he received upon the wool he produced and sold.

When the number of farmers engaged in wool-raising is compared with all the farmers in the country, and the small proportion they bear to our population is considered; when it is made apparent that, in the case of a large part of those who own sheep, the benefit of the present tariff on wool is illusory; and, above all, when it must be conceded that the increase of the cost of living caused by such tariff, becomes a burden upon those with moderate means and the poor, the employed and unemployed, the sick and well, and the young and old, and that it constitutes a tax which, with relentless grasp, is fastened upon the clothing of every man, woman, and child in the land, reasons are suggested why the removal or reduction of this duty should be included in a revision of our tariff laws.

In speaking of the increased cost to the consumer of our home manufactures, resulting from a duty laid upon imported articles of the same description, the fact is not overlooked that competition among our domestic producers sometimes has the effect of keeping the price of their products below the highest limit allowed by such duty. But it is notorious that this competition is too often strangled by combinations quite prevalent at this time, and frequently called trusts, which have for their object the regulation of the supply and price of commodities made and sold by members of the combination. The people can hardly hope for any consideration in the operation of these selfish schemes.

If, however, in the absence of such combination, a healthy and free competition reduces the price of any particular dutiable article of home production, below the limit which it might otherwise reach under our tariff laws, and if, with such reduced price, its manufacture continues to thrive, it is entirely evident that one thing has been discovered which should be carefully scrutinized in an effort to reduce taxation.

The necessity of combination to maintain the price of any commodity to the tariff point, furnishes proof that some one is willing to accept lower prices for such commodity, and that such prices are remunerative; and lower prices produced by competition prove the same thing. Thus where either of these conditions exist, a case would seem to be presented for an easy reduction of taxation.

The considerations which have been presented touching our tariff laws are intended only to enforce an earnest recommendation that the surplus revenues of the Government be prevented by the reduc-

tion of our customs duties, and, at the same time, to emphasize a suggestion that in accomplishing this purpose, we may discharge a double duty to our people by granting to them a measure of relief from tariff taxation in quarters where it is most needed and from sources where it can be most fairly and justly accorded.

Nor can the presentation made of such considerations be, with any degree of fairness, regarded as evidence of unfriendliness toward our manufacturing interests, or of any lack of appreciation of their value and importance.

These interests constitute a leading and most substantial element of our national greatness and furnish the proud proof of our country's progress. But if in the emergency that presses upon us our manufacturers are asked to surrender something for the public good and to avert disaster, their patriotism, as well as a grateful recognition of advantages already afforded, should lead them to willing co-operation. No demand is made that they shall forego all the benefits of governmental regard; but they can not fail to be admonished of their duty, as well as their enlightened self-interest and safety, when they are reminded of the fact that financial panic and collapse, to which the present condition tends, afford no greater shelter or protection to our manufactures than to our other important enterprises. Opportunity for safe, careful, and deliberate reform is now offered; and none of us should be unmindful of a time when an abused and irritated people, heedless of those who have resisted timely and reasonable relief, may insist upon a radical and sweeping rectification of their wrongs.

The difficulty attending a wise and fair revision of our tariff laws is not underestimated. It will require on the part of the Congress great labor and care, and especially a broad and national contemplation of the subject, and a patriotic disregard of such local and selfish claims as are unreasonable and reckless of the welfare of the entire country.

Under our present laws more than four thousand articles are subject to duty. Many of these do not in any way compete with our own manufactures, and many are hardly worth attention as subjects of revenue. A considerable reduction can be made in the aggregate, by adding them to the free list. The taxation of luxuries presents no features of hardship; but the necessities of life used and consumed by all the people, the duty upon which adds to the cost of living in every home, should be greatly cheapened.

The radical reduction of the duties imposed upon raw material used in manufactures, or its free importation, is of course an important factor in any effort to reduce the price of these necessities; it

would not only relieve them from the increased cost caused by the tariff on such material, but the manufactured product being thus cheapened, that part of the tariff now laid upon such product, as a compensation to our manufacturers for the present price of raw material, could be accordingly modified. Such reduction, or free importation, would serve beside to largely reduce the revenue. It is not apparent how such a change can have any injurious effect upon our manufacturers. On the contrary, it would appear to give them a better chance in foreign markets with the manufacturers of other countries, who cheapen their wares by free material. Thus our people might have the opportunity of extending their sales beyond the limits of home consumption—saving them from the depression, interruption in business, and loss caused by a glutted domestic market, and affording their employes more certain and steady labor, with its resulting quiet and contentment.

The question thus imperatively presented for solution should be approached in a spirit higher than partisanship and considered in the light of that regard for patriotic duty which should characterize the action of those intrusted with the weal of a confiding people. But the obligation to declared party policy and principle is not wanting to urge prompt and effective action. Both of the great political parties now represented in the Government have, by repeated and authoritative declarations, condemned the condition of our laws which permit the collection from the people of unnecessary revenue, and have, in the most solemn manner, promised its correction; and neither as citizens or partisans are our countrymen in a mood to condone the deliberate violation of these pledges.

Our progress toward a wise conclusion will not be improved by dwelling upon the theories of protection and free trade. This savors too much of bandying epithets. It is a *condition* which confronts us—not a theory. Relief from this condition may involve a slight reduction of the advantages which we award our home productions, but the entire withdrawal of such advantages should not be contemplated. The question of free trade is absolutely irrelevant; and the persistent claim made in certain quarters, that all efforts to relieve the people from unjust and unnecessary taxation are schemes of so-called free-traders, is mischievous and far removed from any consideration for the public good.

The simple and plain duty which we owe the people is to reduce taxation to the necessary expenses of an economical operation of the Government, and to restore to the business of the country the money which we hold in the Treasury through the perversion of governmental powers. These things can and should be done with safety

to all our industries, without danger to the opportunity for remunerative labor which our workingmen need, and with benefit to them and all our people, by cheapening their means of subsistence and increasing the measure of their comforts.

The Constitution provides that the President "shall, from time to time, give to the Congress information of the state of the Union." It has been the custom of the Executive, in compliance with this provision, to annually exhibit to the Congress, at the opening of its session, the general condition of the country, and to detail, with some particularity, the operations of the different Executive Departments. It would be especially agreeable to follow this course at the present time, and to call attention to the valuable accomplishments of these Departments during the last fiscal year. But I am so much impressed with the paramount importance of the subject to which this communication has thus far been devoted, that I shall forego the addition of any other topic, and only urge upon your immediate consideration the "state of the Union" as shown in the present condition of our treasury and our general fiscal situation, upon which every element of our safety and prosperity depends.

The reports of the heads of Departments, which will be submitted, contain full and explicit information touching the transaction of the business intrusted to them, and such recommendations relating to legislation in the public interest as they deem advisable. I ask for these reports and recommendations the deliberate examination and action of the Legislative branch of the Government.

There are other subjects not embraced in the departmental reports demanding legislative consideration and which I should be glad to submit. Some of them, however, have been earnestly presented in previous messages, and as to them, I beg leave to repeat prior recommendations.

As the law makes no provision for any report from the Department of State, a brief history of the transactions of that important Department, together with other matters which it may hereafter be deemed essential to commend to the attention of the Congress, may furnish the occasion for a future communication.

GROVER CLEVELAND.

WASHINGTON,

December 6, 1887.

REPORT.

TREASURY DEPARTMENT,
Washington, D. C., December 5, 1887.

I have the honor to submit the following report:

RECEIPTS AND EXPENDITURES.

Fiscal year 1887.

Ordinary revenues of the Government from all sources for the year ended June 30, 1887, were:

Customs.....	\$217,286,893 13
Internal revenue.....	118,823,391 22
Land of public lands.....	9,254,286 42
Interest on coinage, bullion deposits, and assays.....	8,929,252 83
Interest on national banks.....	2,385,851 18
Consular, letters patent, and land.....	3,301,647 16
Customs fees, fines, penalties, &c.....	1,053,037 86
Interest on Indian lands.....	1,479,028 81
Interest on Soldiers' Home, permanent fund.....	1,226,259 47
Interest on sinking-fund for Pacific railways.....	1,364,435 87
Interest on payment of interest by Pacific railways.....	914,793 13
Interest on old public buildings.....	624,882 20
Interest on Government property.....	262,832 32
Interest on migrant-fund.....	258,402 50
Interest on seal-skins.....	317,452 75
Interest on suits by individuals for surveying public lands.....	94,289 76
Interest on dues of the District of Columbia.....	2,367,869 01
Interest on miscellaneous sources.....	1,458,672 04
Ordinary receipts.....	<u>371,403,277 66</u>

Ordinary expenditures for the same period were:

Expenses.....	\$22,072,436 27
Interest on intercourse.....	7,104,490 47
Interest on service.....	6,194,522 69
Interest on interest.....	75,029,101 79
Interest on Military establishment, including rivers and harbors and interest on naval establishment, including vessels, machinery, and im- ports at navy-yards.....	38,561,025 85
Interest on miscellaneous expenditures, including public buildings, light- and collecting the revenue.....	15,141,126 80
Interest on interest on account of the District of Columbia.....	52,002,647 46
Interest on interest on the public debt.....	4,085,251 39
Interest on sinking-fund.....	47,741,577 25
Interest on interest.....	47,903,248 15
Ordinary expenditures.....	<u>315,835,428 12</u>

Resulting surplus of..... \$55,567,849 54
with an amount drawn from the cash balance in the
Treasury of..... 24,455,720 46

Total..... 80,023,570 00

Was applied to the redemption—

Of the loan of 1882.....	\$79,864,100 00
Of the funded loan of 1881.....	54,800 00
Of the loan of July and August, 1861.....	34,650 00
Of the ten-forty loan of 1864.....	12,350 00
Of consols of 1865.....	14,550 00
Of consols of 1867.....	34,400 00
Of consols of 1868.....	650 00
Of the five-twenty loan of 1862.....	1,650 00
Of the loan of 1863.....	350 00
Of Oregon war debt.....	100 00
Of the five-twenty loan of 1864.....	150 00
Of compound-interest and other notes.....	5,890 00

80,023,570 00

As compared with the fiscal year 1886, the receipts for 1887 have increased \$34,963,550.60, as follows:

Source.	Increase.	Decrease.	Net increase.
Customs.....	\$21,381,869 69		
Internal revenue.....	2,017,454 74		
Sales of public lands.....	3,623,287 08		
Profits on coinage, assays, &c.....	3,024,633 57		
Soldiers' Home, permanent fund.....	980,822 49		
Sales of old public buildings.....	272,525 07		
Interest repaid by Pacific railways.....	235,603 70		
Sinking-fund for Pacific railways.....	266,530 40		
Reimbursement for non-paying Indian stocks.....	154,426 98		
Reimbursement for cost of Indian reservations.....	232,941 86		
Material sold to southern railroads in 1865.....	95,000 00		
Consular fees.....	77,336 67		
Immigrant fund.....	76,855 50		
Customs fines, penalties, &c.....	\$1,361 83		
Sales of ordnance material.....	28,817 30		
Custom-house fees.....	16,880 64		
Revenues of the District of Columbia.....	221,229 57		
Miscellaneous items.....	83,691 40		
Tax on national banks.....		\$307,861 69	
Registers and receivers' fees.....		131,347 10	
Steamboat-fees.....		99,786 19	
Deposits for surveying public lands.....		98,445 87	
Sales of Indian lands.....		97,429 25	
Shipping-fees.....		54,578 00	
Sales of condemned vessels.....		40,357 19	
Fees on letters-patent.....		27,912 00	
	35,821,268 49	837,717 89	\$34,963,550 60

There was an increase of \$25,449,041.47 in the expenditures, as follows:

	Increase.	Decrease.	Net increase.
Civil and miscellaneous.....	\$11,097,895 74		
War Department.....	4,236,873 11		
Navy Department.....	1,233,239 06		
Interior Department—Indians.....	95,364 52		
Interior Department—Pensions.....	11,624,237 76		
Interest on the public debt.....		\$2,838,568 72	
	23,287,610 19	2,838,568 72	\$25,449,041 47

Fiscal year 1888.

the present fiscal year the revenues, actual and estimated, are as follows:

Source.	Quarter ended September 30, 1887.	Remaining three-fourths of the year.	Total.
	Actual.	Estimated.	
Revenue.....	\$62,588,115 92	\$165,411,884 06	\$228,000,000 00
Public lands.....	31,422,039 49	88,577,960 51	120,000,000 00
on national banks.....	2,620,800 23	7,379,109 77	10,000,000 00
and sinking-fund, Pacific railways.....	912,411 69	1,087,588 31	2,000,000 00
Consular fees, fines, penalties, &c.....	446,000 81	1,553,909 19	2,000,000 00
of Government property.....	273,201 10	878,798 90	1,150,000 00
of consular, letters-patent, and lands.....	1,007,660 36	2,492,339 64	3,500,000 00
of coinage, assays, &c.....	84,926 87	215,073 13	300,000 00
of surveying public lands.....	1,113,855 90	7,846,144 10	9,000,000 00
of the District of Columbia.....	40,450 32	109,549 68	150,000 00
of other sources.....	356,400 11	2,043,569 89	2,400,000 00
Total receipts.....	1,462,355 02	3,037,644 98	4,500,000 00
Total disbursements.....	102,328,397 82	280,671,602 18	383,000,000 00

expenditures for the same period, actual and estimated, are as follows:

Object.	Quarter ended September 30, 1887.	Remaining three-fourths of the year.	Total.
	Actual.	Estimated.	
Miscellaneous expenses, including buildings, light-houses, and collection-revenue.....	\$17,286,572 03	\$62,713,427 37	\$80,000,000 00
Establishment, including fortification and harbor improvements, and establishment, including vessels and machinery, and improvements at navy-yard.....	1,913,585 05	4,336,414 35	6,250,000 00
Establishment, including vessels and machinery, and improvements at navy-yard.....	29,156,382 17	50,843,617 83	80,000,000 00
Establishment, including vessels and machinery, and improvements at navy-yard.....	12,368,225 87	26,631,774 13	39,000,000 00
Establishment, including vessels and machinery, and improvements at navy-yard.....	3,735,240 89	12,264,759 11	16,000,000 00
Establishment, including vessels and machinery, and improvements at navy-yard.....	1,471,685 28	2,775,314 72	4,250,000 00
Establishment, including vessels and machinery, and improvements at navy-yard.....	12,162,181 68	32,337,818 32	44,500,000 00
Establishment, including vessels and machinery, and improvements at navy-yard.....	43,024,277 84	3,793,507 64	46,817,785 48
Total expenditures.....	121,121,152 01	195,696,633 47	316,817,785 48

Receipts, actual and estimated..... \$383,000,000 00
Expenditures, including sinking-fund..... 316,817,785 48

Estimated surplus..... 66,182,214 52

Fiscal year 1889.

revenues of the fiscal year ending June 30, 1889, are thus estimated upon the basis of existing laws:

Customs.....	\$228,000,000 00
Internal revenue.....	120,000,000 00
Land sales of public lands.....	10,000,000 00
Interest on national banks.....	2,000,000 00
Interest and sinking-fund, Pacific Railways.....	2,000,000 00
Customs fees, fines, penalties, &c.....	1,150,000 00
Consular, letters-patent, and lands.....	3,500,000 00
Sales of Government property.....	300,000 00

From profits on coinage, assays, &c.....	\$9,000,000 00
From deposits for surveying public lands.....	150,000 00
From revenues of the District of Columbia.....	2,400,000 00
From miscellaneous sources.....	4,500,000 00
Total estimated ordinary receipts.....	<u>383,000,000 00</u>

The estimates of expenditures for the same period, received from the several Executive Departments and offices, are as follows:

Legislative.....	\$3,272,110 85
Executive.....	18,852,734 95
Judicial.....	422,200 00
Foreign intercourse.....	1,947,865 00
Military establishment.....	23,692,574 54
Naval establishment.....	21,348,032 57
Indian affairs.....	5,488,697 06
Pensions.....	76,312,400 00
Public Works—	
Legislative.....	\$4,000 00
State Department.....	6,000 00
Treasury Department.....	5,074,446 00
War Department.....	22,381,151 20
Navy Department.....	1,655,591 56
Interior Department.....	915,798 00
Department of Justice.....	44,996 00
	<u>30,081,983 66</u>
Postal service.....	1,403,499 42
Miscellaneous.....	20,802,193 36
District of Columbia.....	5,265,702 35
Permanent annual appropriations—	
Interest on the public debt.....	\$42,500,000 00
Sinking-fund.....	47,844,158 90
Refunding—customs, internal revenue, lands, &c..	11,943,000 00
Collecting revenue from customs.....	5,500,000 00
Miscellaneous.....	7,853,640 00
	<u>115,640,798 90</u>
Total estimated expenditures, including sinking-fund.....	<u>326,530,793 26</u>
Or an estimated surplus of.....	<u>\$56,469,206 74</u>

Excluding the sinking-fund, the estimated expenditures will be \$278,686,634.36, showing a surplus of \$104,313,365.64.

SINKING-FUND.

The act of February 25, 1862, (R. S., 3688, 3689,) requires one per centum of the entire debt of the United States to be annually set apart as a sinking-fund, and applied to the purchase or payment of the public debt, in such manner as the Secretary of the Treasury may from time to time direct, together with a sum equal to the interest on all bonds so redeemed; and the act of April 17, 1876, (19 Stat., 33,) provides that fractional currency redeemed by the Treasury shall also form a part of the sinking-fund.

The requirements of the fund for the fiscal year ended June 30, 1887, including a balance of \$1,597,407.23 from the previous fiscal year, were

fully met by the redemption of bonds, interest notes, and fractional currency, to the extent of \$47,903,248.15. The requirements for the current fiscal year, which are estimated at \$46,817,785.48, have been almost wholly provided for to November 1, 1887, by the redemption of fractional currency and three per cent bonds and by the purchase of four and four-and-one-half per cent. bonds, amounting, in all, to \$46,564,821.80, or within \$252,963.68 of the estimated requirement for the year.

SURPLUS REVENUE.

Taxation and currency reform were the questions which my distinguished predecessor deemed to be of most pressing importance, and to them he devoted a large part of the two annual reports which he made to the Congress. In those reports he stated his honest convictions with a vigor and boldness which, together with the ability and fairness that he showed in the general management of this Department, have given him a high place among statesmen and financiers. The same subjects are still the most important of all those to which it is my duty to call your attention, and it is not necessary to do otherwise than follow the general lines laid down by him in treating them. Circumstances have heightened the immediate urgency of taxation reform as affecting the surplus revenues of the Government. The urgency is so great that the question of surplus revenues demands the earnest attention of both the legislative and executive branches of the Government. By surplus revenue is meant the money which annually remains in the Treasury of the United States after the officers of this Department have collected the taxes laid on the people by the laws of Congress and have paid all the expenses and obligations of the Government except principal of the interest-bearing debt.

Each year for twenty-two years there has been such a surplus—the least, \$2,344,882.30, in 1874; the greatest, \$145,543,810.71, in 1882. The total of this surplus for the twenty-two years ended June 30, 1887, was \$1,491,845,953.12. It was \$103,471,097.69 during the last fiscal year, which was only about a million of dollars less than the greatest annual surplus (that of 1881) since the reduction of taxation in 1883, although the ordinary expenditures, exclusive of interest on the public debt, were \$30,642,735.87 greater in 1887 than in 1884. During the present fiscal year ending June 30, 1888, the surplus taxation will amount to \$113,000,000.

What shall be done with this surplus revenue? It comes into the Treasury in the form of gold coin, silver coin, gold certificates, silver certificates, and United States notes. The Government provides, at

large annual cost, mints and a Bureau of Engraving and Printing to coin and print these various forms of money and representatives of money, that there may be a sufficient circulating medium in the hands of our people to enable them to conveniently exchange the products of their labor among themselves and with the peoples of the world. If we take into the Treasury large amounts of these circulating media in excess of what we pay out, there will soon not be money enough in the hands of the people for the purposes of business; serious derangement and disaster must follow, and a portion of labor must cease until the very evils which this wrong condition creates shall have worked a temporary cure by so diminishing the consumption of food, clothing, fuel, and luxuries, by the taxation of which the revenues of the Government are raised, that taxes do not exceed the expenditures of Government. This evil and this cure every one wishes to avoid. There are various expedients by which this may be done.

1st. The purchase of the interest-bearing debt of the Government.

2d. Larger expenditures by Government for other purposes than the purchase of bonds, so that they shall each year equal the taxation of that year.

3d. Reduction of the revenue from taxation to the amount actually required to meet necessary expenses.

All of these expedients have in common the one merit of preventing the derangement to business which must follow hoarding or locking up in the Treasury the circulating media of the people.

Purchase of Bonds.

The first, the purchase of bonds, has the further merit that the interest ceases upon all bonds purchased by the Government; but, on the other hand, the use in business of the money which is devoted to the purchase of bonds is worth something to the people from whom it is taken by taxation, and if the value of this use of money in business is greater than the amount of money which is saved by the cancellation of the Government bonds, then the people have lost by the transaction, the measure of loss being the difference between the worth of the use of the money to them and the interest saved on the bonds cancelled; for example, no calculation being made of compound interest, the purchase at par of a \$1,000 4 per cent. bond twenty years before it is due saves to the people \$800 in interest upon that bond; but if the money had not been taken from the people, and if in their business it would have been worth 5 per cent. annually for the twenty years, then the total value of the use of the \$1,000 to them would have been \$1,000,

and there would have been a loss of \$200 in consequence of this surplus of taxation; but 4 per cent. bonds cannot be bought at par, and hence the calculation must always be made upon the basis of a far less saving in interest than 4 per cent. per annum by the purchase of the bond, while the average annual value of money to the whole people may safely be put at not less than 5 per cent.

The Government has purchased some bonds during the present fiscal year for the sinking-fund, and has been obliged to pay such a price for them that the annual saving in interest upon the purchases is only about two and one-half per centum. The price of the same classes of bonds has advanced since those purchases, so that the annual saving in interest would be less if purchases were made now. Should the Government attempt to spend all of its present surplus revenues in the purchase of bonds, the price would go much higher. Indeed, it is doubtful if enough bonds could be bought to expend all the surplus revenues at a price which would result in any considerable saving in interest to the Government. So that it does not seem wise to continue taxation beyond the ordinary needs of Government, and then resort to the buying of bonds for the mere purpose of redistributing the circulating media among the people. I am not, however, at present disposed to recommend the repeal of the sinking-fund requirements of the present laws. It is probable that the command of these laws can only be obeyed at heavy cost, but nevertheless it is better and more wholesome that the country should each year continue to devote such sum as they require to the extinguishment of so much of the interest-bearing debt as can be purchased therewith. At least the experiment should be faithfully tried until it is demonstrated to be a failure.

The Government has not paid a premium in gold for its bonds for any purpose but the sinking-fund since the enactment of the law creating it, and it has done that but three times—in 1880, when it paid a premium in gold of \$2,795,320.42; in 1881, a premium of \$1,061,248.78, and again in the present fiscal year, when it has paid a premium of \$2,852,015.88.

With these exceptions, the Government has been in a position where it could purchase or call its bonds at par or less, and has consequently been enabled to apply almost the whole of the vast surplus revenue of the past twenty-two years to the retirement of its interest-bearing debt upon fairly good terms; it is not probable that it can do this as to any considerable portion of the remaining debt.

The sinking fund requirements of the last fiscal year were \$47,903,-248.15, which, deducted from the surplus revenue, viz., \$103,471,-097.69, left \$55,567,849.54 uncalled for by any law; this money, to

gether with a further sum from accumulations of former years, was devoted to the retirement of the 3 per cent. bonds, so that, in all, \$79,864,100 of 3 per cent. bonds were retired during that year in addition to those carried to the sinking-fund, making a grand total of \$127,612,850 3 per cents. retired in 1887.

All of the 3 per cent. bonds have been cancelled. The sinking-fund requirements of the fiscal year ending June 30, 1888, have already been met, and now there is no way, under existing laws, to put out again among the people the surplus money which comes into the Treasury, except it be that a clause in an appropriation act of 1881 authorizes the Secretary of the Treasury to purchase bonds in the market at such price and in such amounts as he may think best; a power which unnecessarily ought not to be given to, and a responsibility which ought not to be put upon, any officer of Government.

I do not mention deposits in national-bank depositories as a means of keeping the circulating media available for business purposes, for that resource at best is very limited under present laws, and ought not to be used except in exceptional circumstances such as have existed of late and because there is no better thing to do.

There is in the Treasury of available funds at this date, December 1, 1887, after every possible obligation has been provided for, the sum of \$55,258,701.19, which every day grows larger. A careful estimate shows that this sum will be increased to \$140,000,000 at the end of this fiscal year under the operation of the present tax and appropriation laws.

Unselfish statesmanship must now be invoked to save the people from the dangers which the new conditions threaten.

Unnecessary Expenditure.

I cannot believe that it will adopt the second expedient, viz., the enlargement of Government expenses simply to expend money raised by taxation, when the public weal does not otherwise call for the expenditure. Every dollar taken by taxation from the man who has it employed in a business which the natural wants of the community call for, and carried into the Treasury, even if at once paid out again to satisfy obligations created by law in excess of the healthy needs of government, is a dollar used to misemploy labor and to impoverish the people, and as a sure consequence to impose in the end the burden of the excessive taxation upon the labor of the country.

We can easily comprehend the case if we consider a community of say one hundred men. If ten of the number of this community are

employed in the construction of fortifications or of public buildings, it is evident that the other ninety must expend a portion of the fruits of their labor in the support of the ten; to do this they must either work more hours and days in the year than they otherwise would do, or they must deprive themselves of certain comforts and savings. The same relations of labor in general to labor employed by government obtain in our great community of sixty millions of people, although numbers and the complex nature of society make it less easy to connect financial and labor troubles with the causes thereof.

I have used as illustrations fortifications and public buildings, not because the Government should not build fortifications to such extent as will give the country ample protection against invasion and enable it at all times to maintain its dignity, or because it should not build public buildings of such size and numbers as are needed for the convenient and fitting transaction of public business, but to show that even the most meritorious expenditures of government are seldom anything but an unproductive burden upon the whole body of labor, and that consequently taxation beyond the absolute needs of government is an injury to the people of the country, no matter for what purposes the proceeds of taxation are expended.

Both bond buying, except for sinking-fund purposes, and governmental expenditure in excess of the needs of government should be rejected.

Reduction of Revenue.

Reduction of the revenue from taxation is the only fit remedy for the evils which threaten the country. This may be accomplished in various ways.

Increased Duties.

One which has been proposed is to compel a decrease of importation, and consequently a decrease of revenue from customs, by largely increasing the rates of duties. This plan could be made to reduce the customs revenue, but it would increase the people's taxation far more than it would decrease the revenues, and should not be adopted.

Internal-Revenue Taxation.

Another way is to reduce or abolish internal-revenue taxation. In favor of this is the fact that in a small part of the Southern States the internal tax on liquors and tobacco is thought to be oppressive, and is odious to the people of those regions; and the further fact that by its reduction the expenses of its collection might be somewhat reduced—by its total abolition they might be done away with altogether. These expenses, as shown by the complete and interesting report of the Com-

missioner of Internal Revenue, which is commended to your careful attention, amounted during the last fiscal year to \$4,065,148.87, being three and forty-hundredths per centum of the amount collected. The cost of the collection of the revenue from customs for the same year was \$6,830,296.16, being three and twelve-hundredths per centum of the amount collected.

The chief cause for the prejudice against this tax seems to be that as there was no such tax before the war for the Union, it is looked upon as a remainder of the measures adopted to raise money to carry on the war, and which ought not to be continued in time of peace, and as interfering in some way with the natural rights of mankind to grow grain and tobacco and manufacture therefrom spirits, cigars, snuff, and the various forms of merchantable tobacco. Of course taxation of whiskey and tobacco trespasses no more upon the natural rights of man than does the taxation of his clothing, of his bedding, of every implement which he uses in the cultivation of his grain and tobacco, and in the distillation or manufacture of the same. The burden of the one tax is direct, known, fixed; the whole of it goes into the Government's Treasury; the burden of the other is indirect and unknown, and only a portion of it comes into the Treasury. It reaches the farmer or distiller increased by the profit upon itself, which every merchant must take as the clothing or tools pass through his hands on their journey to them from the foreign or domestic manufacturer. Taxation there must be. The choice is between kinds of taxation; each man can decide for himself, if he will examine the subject free from prejudice, which is the least burdensome for him, for his family, and for his neighbors, and which is in the end better for his whole country. That internal taxation of spirits and tobacco began during the war is not a reason why it should be done away with now, if it be in itself wise. So the fact that the rates of customs taxation were raised during the same war far higher than ever before in our history and have been continued until now, ought not to determine the manner of their treatment; this should rather depend upon what is just and expedient at the present time. Neither passion, prejudice, nor sentimentality should have place in the consideration of questions of taxation.

As to the expense of collecting the internal revenue, I suggest that an amalgamation of the customs and internal-revenue systems is entirely feasible, and that thereby a large number of offices might be abolished, and that the expense of the whole system might be made not to exceed that of an efficient enforcement of the customs laws. I earnestly commend this suggestion to the careful consideration of the Congress. Is it the part of statesmanship to give up a revenue so

easily collected, to unaccustom our people to its payment and to do away with all machinery for its collection, when, unless we are more favored than the other nations of the world, there will come a day when it will all be needed? If the methods provided by law for the collection of this tax are needlessly severe, amend the law; certainly they are no more severe than those for the collection of the customs tax.

To do away with the whole revenue from internal taxes at present would so diminish the revenues that it would be necessary either to lay duties on articles of importation now free, such as tea and coffee, or to suspend the sinking-fund requirement and also materially diminish other expenses of government.

But it is not well either to abolish or reduce internal-revenue taxation; it is a tax upon whiskey, beer, and tobacco, things which are in very small measure necessary to the health or happiness of mankind; if they are necessary to any unfortunate man, they are far less necessary even to him than are a thousand other articles which the Government taxes. This tax is the least burdensome, the least unjust of all the taxes which government lays or can lay upon the people; each man has a choice to pay much, little, or none of it, as he chooses to use much, little, or no spirits, beer, or tobacco; it should not be abolished, nor should it be reduced if, with due regard to the existing conditions of labor and capital, sufficient reduction can be made in the taxation of articles which are of necessity in the daily use of all the people.

Less Customs Taxation.

And now there is left only the revenue from customs taxation to be considered. Here is where the reduction should be made, and while reducing, advantage should be taken of the opportunity to reform the abuses and inequalities of the tariff laws. Add to the free-list as many articles as possible. Reduce duties upon every dutiable article to the lowest point possible; but in ascertaining these possibilities the present situation of labor and business must always be kept in mind.

One argument urged in favor of the continuance of the present highly protective tariff would, if admitted to be true, establish the claim that the majority of the labor and people of this country have made a compact with the minority that the majority will pay the minority more for certain articles, to be made by the latter, than the price at which the people of other countries are willing to sell the same; that the evidence of this is found in our tariff laws which have kept duties at a highly protective rate since early in the war, and in the continued existence of those laws for so long a time; and that under these conditions many laboring-men have become so employed in certain industries that it might be difficult for them at once to get other work.

While not admitting that labor elsewhere can injure labor as a whole in this country by giving it clothing and tools at less cost than it can make them here for itself, no more than the sun, the winds, the waters, and, indeed, all of the forces of nature injure the labor of the world because they do for mankind far more of man's work than he does himself, yet it must be admitted that the cheaper labor of other countries might now injure a portion of the labor of this country if the articles made by the former were admitted here upon terms which would enable our people to buy them for the prices at which they are sold in the other countries. If this obligation, which it is claimed that labor as a whole has assumed toward labor engaged in particular industries in this country, does exist, it should be sacredly kept, however unwise and ill-considered we may believe its assumption to have been; and whether the existence of this obligation is admitted or not, the fact of this present employment of a portion of the laborers of the country should always be in mind when making changes in the tariff, to the end that their interests may not suffer thereby.

Under the encouragement offered by the tariff laws, large sums of money have been invested in manufacturing enterprises, and the capital thus invested must also be remembered, for it is important to the country that it should receive reasonable reward, and its power to pay fair wages to the labor which it employs depends upon its own prosperity. But it must also be borne in mind that it was no part of the alleged compact, nor should it be claimed on any other ground, that the labor engaged in the tariff-protected industries should be rewarded beyond the general labor of the country, due allowance being made for skill and experience, or that the capital invested in them should return vast fortunes to its owners.

The country was promised the benefit of whatever competition might naturally arise among the manufacturers when they should be once established, and to this it has a right. The tariff laws are the country's laws; they do not belong to any section or to any class; their amendment should be approached in a spirit of justice, and with full consideration of all of the obligations which exist between sections of the country toward each other, and of those engaged in one pursuit toward those engaged in other pursuits, but it should also be approached with courage, and with a determination to dispose of this business in the same way that other business is disposed of, and with full regard to the rights and equities, as well as the interests of all concerned. After paying due regard to all these equities, after providing for due observance of every obligation, it will be found that great reductions

can be made in tariff taxation. So many compensations will be thereby given to this and that industry that most of them will find themselves in fully as good a state as now, many of them in a much better state. Patient labor, coupled with a firm determination to lay aside every consideration save the lasting good of the whole country, will enable the Congress to accomplish its task with honor.

Surplus in the Treasury.

After the question of the annual surplus revenues is disposed of, there still remains the surplus money which is in the Treasury to be considered. This surplus amounted, on the first day of December, to \$5,258,701.19, and will probably amount to about \$140,000,000 on the 30th day of June next. One use which can be made of this money is to diminish taxation to such an extent that the annual revenues will be less for some years to come than the appropriations; thus the accumulated surplus would be used for ordinary expenses and the people would gain the greatest possible good from it. Doubtless by the time this money was spent in pursuance of this plan, the revenues would have so increased as to be equal to proper annual expenses. Experience teaches that this would probably be the case. In the mean time a portion of this money could lie in banks, where it would be available for the business of the country, and, as upon withdrawal from them it would be at once returned to the channels of business through Government payments, no shock would be caused by such withdrawal. As this is the best use to make of this money, I advise it. If, however, it is thought better to attempt to buy bonds with it, specific authority should be given to the Secretary of the Treasury to do so.

CUSTOMS ADMINISTRATION.

The difficulties in the collection of duties so forcibly pointed out by my predecessor in his annual reports and special communications to the Congress still exist, notwithstanding the efforts of this Department and of the local customs officers to overcome them. The numerous ambiguities in the tariff schedules furnish constant means of evasion; disputes and litigation increase rather than diminish. The calendar of customs suits in the southern district of New York has grown so large that there is no reasonable prospect of disposing of them in this generation. A merchant who has suffered an illegal exaction of duties cannot hope for a speedy trial of his cause, and justice is practically denied him. The laws which were ostensibly enacted to prevent fraud by undervaluation promote rather than suppress that evil.

The remedies for these troubles which suggest themselves to me are, briefly stated, the reduction of high ad valorem rates of duty, the simplification of the tariff by the elimination of ambiguities, and decreasing the number of dutiable articles, and the rearrangement and simplification of the customs laws, including the enactment of proper measures to enforce the collection of duties, and to secure the prompt, uniform, and certain adjustment of all questions relating to values and rates of duty.

Improvements in the methods of appraisement and reappraisement, and the abolition or restriction of damage allowances, may well claim your attention.

The privilege of entry by *pro forma* invoice should be so guarded as to prevent its use to escape the penalty for undervaluation.

Careful attention should be given to measures to diminish the amount of customs litigation with which the courts are burdened. Speculative suits should be discouraged, and, as one of the means to that end, either no interest at all or a very low rate of interest should be allowed on judgments against the Government.

The law relating to coverings of imported goods should be amended in the interest of honest and equitable administration. What is meant by "the component material of chief value" should be made clear, and the other provisions of the similitude clause of the tariff should be more distinctly defined.

I advise that the full amount of the drawback on exported goods be given to the manufacturer or exporter. This concession may well be made to the exporter of goods manufactured in this country. The retention of a percentage of the duty in such cases was intended to compensate the Government for the expense of ascertaining and paying the drawback. But it often operates unequally, and is sometimes in effect a tax upon exportation. While granting this to the exporter, the drawback laws should be so framed as to insure the payment of no more than the amounts actually collected in duties, and only to the persons actually entitled to the same.

If the administrative measures introduced in the last Congress, and approved by this Department, should be enacted, it is believed that they would accomplish much in the direction indicated.

I am advised that the Special Committee of the Senate on Undervaluations has made an exhaustive investigation of the subject of evasions of duties, and I am led to hope that its labors may result in some wholesome legislation in the premises.

Whatever the rates of customs taxation may be, the laws for the collection of the same should be made as efficient as possible. In this the

bona fide importer, who wishes to gain only the legitimate profits of his business, the home manufacturer, and laborer are equally interested. They all have a right to demand that the laws be so administered as to give them every possible protection in their business. The high *ad valorem* tariff of the last quarter of a century has been the fruitful cause of devices to gain improper advantage at the custom-house. It is therefore, desirable that in revising and reducing rates of duty they should be made specific instead of *ad valorem* so far as the nature of the merchandise will permit. Theoretically considered, *ad valorem* are preferable to specific duties; but in practice, under such rates as we have had and must continue to have for years to come, the former are the too easy source of deception and inequality at the custom-house. Congress has it in its power to change, from time to time, as may be advisable, specific rates so as to meet any permanent changes in values.

Duty on Worsted Cloths.

A conspicuous example of the inequalities of the tariff is found in the discrimination in the rates of duty imposed upon woollen and worsted cloths.

Improvement in recent years in the machinery employed in combing wool has so changed the character of what are commercially known as worsted cloths that the latter have largely superseded woollen cloths for use as men's wearing-apparel. This change in the style of manufacture and use of worsted cloths has operated to the serious injury of our domestic manufacturers of these goods, because the duty on the wool which they must use is the same as that upon wool used in making woollen cloths, while the rates of duty imposed upon the latter when valued at not exceeding 80 cents per pound are 35 cents per pound and 35 per cent. *ad valorem*, whereas the duty on worsted cloths valued at not exceeding 80 cents ranges from 10 to 24 cents per pound and 35 per cent. *ad valorem*. In some cases the duty on the wool used in making worsted cloths exceeds the duty imposed on the finished article.

Earnest representations have been made to me of the hardships suffered by domestic interests on account of these changed conditions. There is much reason to believe that the manufacture of worsted cloths must soon cease in this country unless the tariff law in this regard is amended.

It has been ably argued before the Department that the changes in the method of manufacture and in the style and use of the goods in question have been such as to make them in fact woollen cloths, and that it is the duty of the customs officers to so classify them.

The truth of this claim is very doubtful, in my judgment, hence it would be a violation of my duty should I direct the customs officers to change a long established usage in this regard.

I am, however, so convinced of the imminent danger to large industries engaged in the manufacture of worsted and woollen goods, unless a change is soon made in the duties on wool and manufactures thereof, that I deem it proper to depart from my general practice in thus calling your attention to this particular provision of the tariff.

Customs Districts.

Attention is invited to the appended report of the Supervising Special Agent (page 879), which contains pertinent information and suggestions relating to the customs administration. A tabular statement accompanying that report (page 884) shows the business transacted in each of the customs districts, and the cost of collection in each case. There are 139 of these districts and ports. In 60 of them the expenses exceeded the receipts, and in 28 of them there were no duties on imports or tonnage collected.

The attention of the Congress has been repeatedly called by my predecessors to these useless and expensive establishments for collecting revenue where no revenue is received. A bill for their abolition and consolidation, providing amply for preventive service in the territory embraced in them, and having the approval of this Department, was before the last Congress. I urgently recommend its revival and early consideration, in the interest alike of economy and public convenience.

Methods of Business at Principal Ports.

Much attention has been given by this Department to the improvement and simplification of the methods of business at the principal ports. At the port of New York, greatly improved methods in the liquidation of entries have replaced those which were before loose and unsatisfactory, and large arrears of unliquidated entries which had accumulated are being rapidly disposed of, so that in a short time it is expected that the officers will be able to keep up the current business. Improvements have also been made in the treatment of protests, suits, and refunds, which have resulted alike to the advantage of the Government and of the merchants interested.

Expense of Collecting the Revenue from Customs.

The expense of collecting the revenue from customs during the last fiscal year was \$6,830,296.16. Included in this amount is \$188,392.50 of a deficiency appropriation on this account. This is an increase over the expenses for the year 1886 of \$402,683.16. The percentage of cost

collections has, however, decreased from 3.30 per cent. in 1886 to .12 per cent. in 1887.

The Secretary of the Treasury is required by the fifth section of the act of August 5, 1882, to submit, annually, detailed estimates to Congress of the cost of collecting the revenue at each port of entry. This has been done regularly since that law went into effect. The object of this requirement, as then understood, was, that Congress might have the necessary information upon which to base specific annual appropriations for this branch of the public service. No such action has, however, been taken, although five years have elapsed since the enactment of this law. It is, therefore, assumed that it is not the desire of Congress to discontinue the present system of a permanent annual appropriation for defraying these expenses. If such be the case, it will be necessary to increase the sum now appropriated by at least \$500,000.

The present permanent appropriation was made by the act of March 3, 1871, which provides an annual fund of \$5,500,000, "in addition to such sums as may be received from fines, penalties, and forfeitures connected with the customs, and from fees paid into the Treasury by customs officers, and from storage, cartage, drayage, labor, and services." The above appropriation of \$5,500,000 was in lieu of \$4,200,000 provided by the act of May 3, 1866. The act of 1871 thus increased the customs appropriation by \$1,300,000, or over 30 per cent., though the amount of business had not increased 10 per cent. in the intervening period, and the receipts from fines, fees, &c., had very largely increased.

Sixteen years have elapsed since the present permanent appropriation was made, but the conditions upon which it was based have vastly changed. The amounts available for the payment of customs expenses other than that drawn from the Treasury were in the fiscal year ending June 30, 1871, as follows:

From fines, penalties, and forfeitures.....	\$952,579 86
From fees of customs officers.....	585,887 69
From storage, cartage, &c.....	409,587 69
Total	1,948,055 24

By changes in the statutes since that date the first two accounts have greatly fallen off, while the last one has responded to the increase of business, and the exhibit for the fiscal year 1887 is as follows:

From fines, penalties, and forfeitures.....	\$160,265 41
From fees of customs officers.....	144,817 53
From storage cartage, &c.....	748,014 92
Total.....	1,053,037 86

Or a reduction of \$895,017.38 in the amount of money annually available for payment of customs expenses; so that a deficiency appropriation

tion was necessary to meet the expenses of that year. On the other hand, the demands upon the appropriation have increased through the great expansion of business, at the principal ports, the creation of new ports and customs districts, and the large increase of business at interior ports to which goods are shipped from the seaboard without appraisement under the act of June 10, 1880, and subsequent acts.

At the port of New York over two-thirds of the customs revenue is collected, and the business there fairly represents the business of the whole country. A comparison of the main transactions at that port in the fiscal years 1871 and 1887 is thus presented:

	1871.	1887.
Number of vessel manifests received.....	5, 148	6, 114
Number of entries of merchandise.....	123, 444	193, 657
Number of withdrawals from bond.....	92, 139	92, 453
Number of export, transit, and transportation bonds.....	13, 190	22, 903
Number of entries for immediate transportation.....		20, 105
Number of entries for drawback.....	2, 904	19, 534
Number of invoices liquidated.....	124, 658	232, 632
Totals.....	361, 483	567, 396

There has thus been an increase of 225,915 distinct documents and transactions, or an increase of over 62 per cent. in the volume of business. In 1871 there were weighed by the customs officers at New York 3,251,322,004 pounds. In 1887 the amount weighed was 5,522,655,197 pounds, an increase of 70 per cent.

In general terms it may be stated that there has been an increase of 66 per cent. in the transactions requiring action by the customs officers at that port.

In my judgment, definite annual appropriations for the support of the customs service would be preferable to the present system. This would necessitate the adoption of another reform much needed, viz., the payment of fixed salaries to all those collectors and surveyors of customs who are now compensated in part by salaries and in part by fees, commissions, storage, and other emoluments.

Should it be determined, however, to continue the permanent annual appropriation of a lump sum for this purpose, at least seven millions should be appropriated, and the receipts from fines, penalties, and forfeitures, fees, storage, cartage, labor, and services should be covered into the Treasury. This would enable the Department to know at all times the exact amount available for customs expenses, and would greatly simplify the labors of the officers in relation thereto.

Conference of Local Appraisers.

During the past year there have been held at the port of New York three conferences of local appraisers, which were convened for the pur-

pose of securing, so far as possible, a uniform practice at the several ports in the valuation and classification of imported merchandise. The first conference met on December 2, 1886, and was attended by the appraisers from the five principal ports of this country. It was called by me for the purpose of simplifying and harmonizing, if possible, the practice at those ports in the classification of so-called "hat materials."

The others were held under and by virtue of an act of March 3, last, which appropriated \$2,000 for defraying the expenses of local appraisers at quarterly meetings of this character on the second Mondays in July and October last, and were attended respectively by the appraisers from four and seven of the principal ports.

The proceedings extended over a period of about two weeks at each conference, and appear to have been conducted with harmony and attended with much interest. The report of each has been published by the Department, and copies sent the customs officers at all ports.

Under the act above mentioned two more conferences will be held at New York in January and March next, which will be attended by the appraisers from the leading ports and from other ports which have not been represented at previous conferences.

It is perhaps too early as yet to judge as to the practical results of these conferences, but much benefit to the Government as well as to commercial interests is hoped to be derived therefrom in the way of increased revenue to the one and to the other of more certainty as to the rates of duty to be imposed.

The limited appropriation precludes the attendance at these conferences of appraisers from a distance, who would in all probability be most benefited thereby, and an increased appropriation for the ensuing year would, it is thought, enable the Department to so arrange these conferences as to increase their usefulness.

FOREIGN COMMERCE.

The values of our imports from and exports to foreign countries during the year ended June 30, 1887, as compared with the preceding fiscal year, were as follows:

Merchandise.

	1886.	1887.
Exports—		
Domestic.....	\$655,964,529	\$703,022,923
Foreign.....	13,860,301	13,160,288
Total.....	679,824,830	716,183,211
Imports.....	635,436,136	692,319,768
Excess of exports.....	44,388,694	23,863,443

Specie.

	1886.	1887.
Exports.....	\$72,463,410	\$35,997,691
Imports.....	38,593,656	60,170,792
Excess of exports.....	33,869,754	
Excess of imports.....		24,173,101

The total value of the imports and exports of the last fiscal year, when compared with that of the fiscal year 1886, shows an increase of \$93,542,013.

[An extended analysis of the condition, growth, &c., of our foreign trade, and its leading characteristics, as compared with those of preceding years, will be found in the Annual Report of the Chief of the Bureau of Statistics on Foreign Commerce.]

Exports.

The value of our exports of domestic merchandise during the last fiscal year exceeded that of 1886 by \$37,058,394.

The following are the articles of domestic product or manufacture the exports of which have materially increased during the last fiscal year:

Wheat.....	\$40,453,766
Wheat-flour.....	13,507,127
Pork and meat products, except beef products.....	6,185,297
Leather, and manufactures of.....	1,698,456
Furs and fur-skins.....	1,486,175
Cotton, unmanufactured.....	1,136,416

The following are the articles of domestic product or manufacture the exports of which have decreased during the last fiscal year:

Corn.....	\$12,383,561
Mineral oils.....	3,374,929
Beef products.....	2,998,053
Spirits, distilled.....	1,944,411
Oats.....	1,765,138
Hops.....	1,659,518
Copper ore.....	1,374,955
Tobacco, and manufactures of.....	1,194,236
Fire-arms.....	1,114,407
Dairy products.....	1,039,164

The values of the principal articles of domestic merchandise exported during the two years ended June 30, 1886 and 1887, were as follows:

Articles.	1887.	1886.
Animals.....	\$10,598,362	\$12,518,600
Breadstuffs.....	165,768,662	125,846,558
Coal.....	4,526,325	4,188,830
Copper, and manufactures of.....	3,727,447	5,671,748
Cotton, and manufactures of.....	221,151,319	219,045,576
Furs and fur-skins.....	4,807,277	3,321,102
Iron and steel, and manufactures of.....	15,963,756	15,755,490
Leather, and manufactures of.....	10,436,138	8,737,682
Oil-cake and oil-cake meal.....	7,319,691	7,063,714
Oil, mineral.....	40,824,915	50,190,844
Provisions:		
Meat products.....	82,945,994	79,748,750
Dairy products.....	9,537,302	10,876,466
Sugar.....	11,442,337	10,977,759
Tobacco, and manufactures of.....	29,230,672	30,424,908
Wood, and manufactures of.....	19,654,984	20,743,390
Total.....	644,225,211	605,010,177
Value of all domestic exports.....	\$703,022,923	\$665,964,529
Per cent. of enumerated articles to total.....	91.6	91.2

The values of exports of domestic merchandise during the year ended June 30, 1887, classified by groups according to sources of production, were as follows:

	Values.	Per cent.
Products of agriculture.....	\$523,073,798	74.41
Products of manufacture.....	136,738,105	19.45
Products of mining, (including mineral oils).....	11,758,662	1.67
Products of the forest.....	21,126,273	3.01
Products of the fisheries.....	5,155,775	0.73
Other products.....	8,173,310	0.73
Total.....	703,022,923	100.00

Imports.

The total value of the imports of merchandise increased from \$635,-436,136 in 1886 to \$692,319,768 in 1887, being an increase of \$56,883,-632, or 9 per cent., of which \$22,061,831 represents the increase in the value of free merchandise, and \$34,821,797 the increase in the value of dutiable imports.

The following are the articles of merchandise the imports of which have materially increased or decreased during the fiscal year 1887:

Increase.

Free of duty:	
Chemicals.....	\$2,306,226
Coffee.....	13,674,663
India-rubber and gutta-percha, crude.....	1,868,591
Silk, unmanufactured.....	1,365,581
Tin bars.....	1,053,944
Dutiable:	
Animals.....	1,068,566
Art works.....	1,385,478
Fancy articles.....	1,188,890

Flax, hemp, jute, &c.—

Unmanufactured.....	\$2, 352, 408
Manufactures.....	969, 893
Fruits and nuts.....	2, 447, 372
Hops.....	2, 959, 680

Iron and steel—

Ores.....	\$812, 324
Pig-iron.....	2, 472, 274
Scrap-iron.....	2, 910, 135
Railway-bars, steel.....	1, 213, 272
Ingots and other forms of steel not elsewhere specified.....	3, 898, 400
Machinery.....	677, 878
All other.....	507, 127

12 481 410

Precious stones.....	\$2, 623 292
Silk manufactures.....	3, 369, 964
Wools—	
Combing.....	919, 796
Carpet.....	1, 972, 295
Wool, manufactures.....	3, 461, 399

Decrease.

Free of duty:	
Hides and skins.....	2, 480, 212
Seeds not medicinal.....	937, 125

Dutiable:

Breadstuffs.....	1, 295, 248
Cotton, manufactures.....	768, 913
Leather.....	1, 068, 847
Seeds not medicinal.....	880, 778
Sugar, molasses, and candy.....	2, 698, 528
Wools, clothing.....	3, 219, 693

Imports Entered for Consumption.

The amounts of revenue collected on dutiable merchandise entered for consumption at specific rates of duty and ad valorem rates of duty, respectively, during the fiscal years ended June 30, 1883, (the year prior to those affected by the tariff act of March 3, 1883, except with respect to sugar,) 1886, and 1887, have been as follows:

Years.	Value of dutiable mer- chandise.	Ordinary duty collected.	Collected under specific rates.	Collected under ad valorem rates.
			<i>Per cent.</i>	<i>Per cent.</i>
1883.....	\$493, 916, 384	\$200, 650, 099	56.0	44.0
1886.....	413, 778, 055	188, 533, 171	60.5	38.5
1887.....	450, 325, 322	212, 032, 424	61.3	38.7

The total value of imported merchandise entered for consumption in the United States during the year ending June 30, 1887, was ~~\$683, 418, 981~~, exceeding the total of 1886 (viz., \$625,308,814) by ~~\$58,110,167~~, or 9.3 per cent.

Of the aggregate value, \$233,093,659 represents the total value of merchandise free of duty, and \$450,325,322 that of dutiable commodities, against \$211,530,759 and \$413,778,055, respectively, in the preceding year.

The increase of \$58,110,167 in the total value is principally found in the following articles and classes of articles :

Articles.	1886.	1887.	Increase.
FREE OF DUTY.			
Coffee.....	\$42,675,600	\$56,360,701	\$13,685,101
Tin in bars.....	5,873,773	6,927,710	1,053,937
Ores, (emery, gold, and silver).....	1,343,294	3,840,925	2,497,631
DUTIABLE.			
Iron and steel, and manufactures of:			
Ores.....	\$1,312,822	\$2,112,128	\$799,306
Pig-iron.....	4,041,367	6,510,126	2,468,759
Scrap iron and steel.....	557,402	3,723,471	3,166,069
Railroad-bars, iron and steel.....	274,573	1,440,329	1,165,756
Bars, billets, &c., of steel.....	1,859,827	5,529,704	3,669,877
All other.....	30,585,981	31,743,228	1,157,247
Total.....	38,631,777	50,618,986	11,987,209
Wool and manufactures of:			
Wools.....	\$13,794,213	\$16,351,370	\$2,557,157
Manufactures.....	40,536,509	44,235,244	3,698,735
Total.....	54,330,722	60,586,614	6,255,892
Silk, manufactures of.....			
Jewelry and precious stones.....	\$28,055,855	\$31,264,277	\$3,208,422
Flax, hemp, jute, and manufactures of.....	8,367,818	10,981,192	2,613,374
Fruits and nuts.....	31,612,641	33,807,283	2,194,642
	12,973,308	15,088,074	2,114,766

The average duties ad valorem collected on the several articles of dutiable merchandise named below, entered for consumption in 1882 and 1887, respectively, compare as follows :

Increase in duties ad valorem.

	1882.	1887.
Sugar and molasses.....	52.05	78.15
Cotton, manufactures of.....	39.08	40.17
Glass and glass-ware.....	56.94	59.01
Tobacco, and manufactures of.....	73.03	83.32
Liquors:		
Malt-liquors.....	44.49	48.47
Spirits, distilled.....	142.79	154.01
Wines.....	49.82	54.90
Salt.....	45.82	49.92

The increase in the average duties ad valorem on sugar, molasses, malt-liquors, spirits, and salt is mainly due to a decrease in the import prices of these articles, the rates of duty being specific, and in the case of tobacco and wines, to increased tariff rates.

Decrease in duties ad valorem.

	1882.	1887.
Wools, raw.....	37.30	36.06
Wool, manufactures of.....	68.12	67.21
Iron and steel, and manufactures of.....	44.77	40.92
Silk, manufactures of.....	59.05	49.71
Fruits and nuts.....	27.90	21.58
Buttons and button materials.....	28.71	23.79
Paper, and manufactures of.....	31.69	21.38
Musical instruments.....	30.00	28.00
Rice.....	98.54	64.01

This decrease, with the exception of that on rice, is largely the result of tariff legislation, and in the case of rice is due to an increased percentage of granulated rice admitted at 20 per cent. ad valorem.

Increase of Customs Revenue.

The increase in the amount of ordinary duty collected, from \$188,379,397 in 1886 to \$212,032,424 in 1887, viz., \$23,653,627, was in the following classes of articles imported :

Classes of articles.	Duty collected.		Increase.
	Year ending June 30, 1886.	Year ending June 30, 1887.	
Sugar, sugar-candy, and molasses.....	\$51,778,948	\$58,016,686	\$6,237,738
Iron and steel, and manufactures of.....	14,631,876	20,713,234	6,081,358
Wool, and manufactures of:			
Wools.....	5,126,108	5,899,817	773,709
Manufactures.....	27,278,528	29,729,717	2,451,189
Silk, manufactures of.....	13,938,097	15,540,301	1,602,204
Tobacco, and manufactures of.....	8,311,114	9,127,758	816,644
Glass and glass-ware.....	3,694,921	4,510,312	815,388
Fruits, including nuts.....	3,498,569	4,210,099	711,530
All other articles.....	60,121,233	64,284,500	4,163,267
Total.....	188,379,397	212,032,424	23,653,027

Foreign Carrying Trade.

The following table shows the values of the imports and exports of the United States carried respectively in American vessels and in foreign vessels during each fiscal year from 1856 to 1887, inclusive, with the percentage carried in American vessels :

Year ending June 30—	In American vessels.	In foreign vessels.	Total.	Percentage carried in American vessels.
1856.....	\$482,268,274	\$159,336,576	\$641,604,850	75.2
1857.....	510,381,027	213,519,796	723,900,823	70.5
1858.....	447,191,304	180,066,267	627,257,571	73.7
1859.....	465,741,381	229,816,211	695,557,592	66.9
1860.....	507,247,757	255,040,793	762,288,550	66.5
1861.....	381,516,788	263,478,278	644,995,066	65.2
1862.....	217,695,418	218,015,296	435,710,714	50.0
1863.....	241,872,471	313,056,631	554,928,502	41.4
1864.....	184,061,486	485,793,548	669,855,034	27.5
1865.....	167,462,872	437,010,124	604,412,996	27.7
1866.....	325,711,861	685,226,691	1,010,938,552	32.2
1867.....	297,834,904	581,330,403	879,165,307	33.9

Table showing the values of imports and exports, &c.—Continued.

Year ending June 30—	In American vessels.	In foreign vessels.	Total.	Percentage carried in American vessels.
1858.....	\$297,981,573	\$550,546,074	\$848,527,647	35.1
1859.....	289,956,772	586,492,012	876,448,784	33.1
1860.....	352,969,401	638,927,488	991,896,889	35.6
1861.....	353,664,172	755,822,576	1,132,472,258	31.2
1862.....	345,331,191	839,346,362	1,212,328,233	28.5
1863.....	346,306,592	966,723,651	1,340,899,221	25.8
1864.....	350,451,994	489,206,106	1,312,680,640	26.7
1865.....	314,257,792	884,788,517	1,219,434,544	25.8
1866.....	311,076,171	813,354,987	1,142,904,312	27.1
1867.....	316,060,281	859,920,596	1,194,045,627	26.5
1868.....	313,050,906	876,991,129	1,210,519,399	25.9
1869.....	272,015,692	911,269,232	1,202,708,609	22.6
1870.....	258,346,577	1,224,285,434	1,503,593,404	17.18
1871.....	250,586,429	1,269,092,983	1,545,041,974	16.22
1872.....	227,229,745	1,212,978,769	1,475,181,831	15.40
1873.....	240,420,500	1,258,506,924	1,547,020,316	15.54
1874.....	223,699,035	1,127,798,199	1,408,211,802	16.60
1875.....	194,863,743	1,079,518,566	1,319,717,084	14.76
1876.....	197,349,593	1,073,911,113	1,314,960,966	15.01
1877.....	194,356,746	1,165,194,508	1,408,502,979	13.80

Thus it will be seen that our foreign commerce, carried in vessels of the United States, measured by its value, has steadily declined from 75 per cent. in 1856 to less than 14 per cent. in 1887. Even of this small percentage less than one-half was carried in steam-vessels bearing our flag.

A citizen of the United States may buy a foreign-built vessel in a foreign port; he may put the United States flag upon it and trade with all the countries of the world except his own. Our Government will protect him with all its power in such trade; but if he brings his ship with our flag upon it to one of our ports, our Government will confiscate it or impose prohibitory duties. He may, however, put the flag of any other country on that same ship and bring it to his home without molestation by our Government; it is then protected by the power of a foreign country. It is difficult to understand why it would not be well to so change our navigation laws as to allow foreign-built ships owned by our citizens to come and go between this and other countries while bearing the flag of the country of their owners.

PUBLIC MONIES.

The monetary transactions of the Government have been conducted through the offices of the Treasurer of the United States, nine assistant treasurers, and two hundred and eleven national-bank depositaries.

The gross receipts of the Government, amounting during the fiscal year, as shown by warrants, to the sum of \$525,844,177.66, (\$154,440,900 of which were on account of United States notes, certificates, and conversion of refunding certificates,) were deposited as follows, viz:

In the Treasury and sub-treasuries.....	\$398,534,669 95
In national-bank depositaries.....	127,309,507 71

CURRENCY CIRCULATION.

The increase and changes in the circulation among the people of money and its representatives, and of money and bullion in the Treasury since July 1, 1886, have been so extensive and interesting that it is well to here give the following tables:

Comparative statement showing the changes in circulation from July 1, 1886, to November 1, 1887.

	In circulation July 1, 1886.	In circulation Nov. 1, 1887.	Decrease.	Increase.
Gold coin.....	\$358,790,428	\$392,585,770		\$33,795,342
Standard silver dollars.....	52,409,720	62,934,625		10,464,905
Subsidiary silver.....	46,156,256	51,290,051		5,133,795
Gold certificates.....	76,044,375	99,684,773		23,640,398
Silver certificates.....	88,116,225	160,713,987		72,597,762
United States notes.....	323,812,700	331,419,950		7,607,250
National-bank notes.....	304,475,950	267,893,223	\$36,582,727	
Totals.....	1,249,865,654	1,366,512,349	36,582,727	153,239,423
Net increase.....				\$116,646,695

Comparative statement showing the changes in the money and bullion held by the Treasury from July 1, 1886, to November 1, 1887.

	In Treasury July 1, 1886.	In Treasury Nov. 1, 1887.	Decrease.	Increase.
Gold coin.....	\$189,529,603	\$182,342,103	\$7,187,500	
Standard silver dollars.....	181,253,566	214,175,532		\$32,921,966
Subsidiary silver.....	24,904,681	24,468,135	4,436,546	
United States notes.....	22,898,316	15,261,066	7,607,250	
National-bank notes.....	4,034,416	4,157,980		123,564
Gold bullion.....	43,308,530	120,202,502		76,893,972
Silver bullion.....	3,022,198	4,721,996		1,629,798
Trade-dollars as bullion.....		6,961,036		6,961,036
Totals.....	472,991,300	572,290,350	19,231,296	118,530,346
Net increase.....				\$99,299,050

The circulation of coin and paper in denominations of twenty dollars and less, from July 1, 1886, to November 1, 1887, shows a net increase of about \$109,000,000; thus nearly the whole of the increased circulation was in the form of small money. The increase in the total circulation was caused by ordinary payments made in pursuance of law, by the purchase of bonds, and by increasing deposits in national-bank depositories. The increase in the circulation of small money was because the Government met the people's request for it so far as it could. But for the lack of a sufficient appropriation for the Bureau of Engraving and Printing, the circulation of small currency, particularly in the form of silver certificates, would have been much greater. It has been impossible to more rapidly supply the demand for that kind of currency.

After deducting the gold and silver coin, held for the gold and silver certificates in circulation, it is found that the Government owned \$30,827,898 less gold coin, and \$39,675,706 less standard silver dollars on November 1, 1887, than it did on July 1, 1886; during the intervening period \$43,386,871 standard silver dollars were coined.

As there is still so much coined gold owned by the Government, (\$32,657,330, November 1, 1887,) it has been thought best to allow the gold to accumulate in the form of bullion, until there is need of gold coin.

The statements of the Treasurer show that after deducting the demand and trust liabilities of the Government and the amount of money on deposit in national-bank depositories the net money in the Treasury vaults was \$89,660,592.36 on June 30, 1886; October 31, 1887, it was \$49,459,361.77.

STANDARD SILVER DOLLARS.

One of the most interesting facts shown by the foregoing statements is the decrease in the number of standard silver dollars owned by the Government and the increased use of the same money by the people in the form of silver certificates. The five, two, and one dollar certificates furnish a convenient currency, and it is evident that the future use of the silver dollar will be almost exclusively in that form.

It is waste to coin and store any more silver dollars at present. There is no function which those that are coined after this time will probably ever perform, except to lie in Government vaults and be a basis upon which silver certificates can be issued. It is seldom that any one wishes to have his silver certificate exchanged for the silver dollar itself, consequently a limited number of coined dollars will perform the work of redeeming certificates. The \$214,000,000 which are now in the Treasury will more than suffice to redeem, as they may be presented from time to time, the silver certificates that have already been issued or that can be issued against all the dollars which will be coined for years to come under the present law.

The law should be so amended as to authorize the Secretary of the Treasury to issue certificates against the coining value of the bullion bought and to coin only such number of dollars as he might deem expedient hereafter. This would not restrict in the least degree the use of the silver dollar as currency. The certificates would be equally secure whether representing coined dollars lying in vaults, or representing bullion also lying in vaults, and which could be coined into dollars. The bullion should be melted into the form of very heavy bars, which could not be easily stolen or lost. In this form the silver could be easily and quickly moved, and counted.

More than a dozen men were occupied for several weeks last summer, when the late Treasurer turned over the office to the present incumbent, in counting the coin which is in the vaults at Washington. Safety, economy, and convenience would be promoted if this recommendation were adopted.

Safeguards for Silver Money.

It would be a neglect of duty did I not call the attention of the Congress to certain safeguards which ought to be thrown about the standard silver dollar to protect from possible loss the people among whom it and its representative, the certificate, are so universally distributed.

Provision should be made against a time when there may be more of that form of money than is required for the business of the country. The first symptom of this will be increasing ownership of silver by the Government; this increase will take place because the Government pays to the people that kind of currency which they wish to have and receives from them that kind which they wish to pay; consequently, the Government will accumulate the form of money which the public least desires. If the Government held no funds save those needed for its daily expenses, it would perform no different function toward currency when it had once coined or printed it than does an individual who receives and pays out money; but the two great trust-funds—that for the redemption of United States notes, (\$100,000,000,) and that for the redemption of national-bank notes, at present more than \$100,000,000, and whatever surplus there may be from time to time—form, as it were, a reservoir which takes and holds that kind of currency which the people reject. Were it not for this great Government reservoir a redundancy of any form of currency would be shown either by its exportation to countries where it was needed or by its depreciation here. The silver dollar cannot be exported because the silver of which it is made is worth less than 75 cents, and that would be its value for exportation.

The Government has bought silver bullion and coined it into about \$280,000,000, of which it has put in circulation among our people about \$230,000,000, making an apparent profit thereby of over \$35,000,000; it has always kept those dollars and their certificates as valuable as they were when it paid them out, by receiving them in payment of taxes; but sometimes it has been obliged to receive them in greater amounts than the people were willing to take them; this was notably the case in 1884, 1885, and 1886, when they so accumulated that at the end of July, 1886, there were \$93,959,880 of them in the Treasury. During those years these funds in the Treasury formed the reservoir which held the silver dollars that the people did not want, and thus prevented those which they did want, and still held, (\$146,000,000,) from going to a discount, or, in other words, from

becoming worth less to the people than they were when the Government originally paid them out of its Treasury. The foregoing tables show that during the sixteen months ended November 1, 1887, this Department was able to pay out at par and keep in circulation \$10,464,905 of the coined silver dollars, and \$72,597,732 of their representatives, the certificates, in addition to the amounts of each in circulation July 1, 1886. If the Department had been able to print enough certificates, doubtless the whole of this increased use of silver would have been in the form of certificates, and few, if any, coined dollars would have been paid out. On the contrary, many of those out would have been returned, and certificates taken in their place.

There should always be in the Treasury enough silver beside that held against outstanding certificates to enable the Government to at once supply any demand for it on the part of the people; but all held in the Treasury in excess of that amount is absolutely useless for any purpose, and is in fact a menace to the silver which the people hold and also to the United States notes and national-bank notes—to the whole circulating medium, except gold; therefore it would be the part of wisdom to prevent any accumulation of silver in the Treasury beyond a sufficient reserve needed to meet any demand which may be made for it. This can be done by fixing the amount of such reserve, and providing that when it is exceeded by say \$5,000,000, the purchase of bullion shall cease until the amount held by the Government again equals such reserve. Another plan, somewhat similar to that recommended by my predecessor in his last annual report, would be to provide that when the reserve was exceeded, an amount of United States notes equal in value to such excess should be cancelled, if enough of them were in the Treasury; but if not, then the purchase of bullion to cease until the maximum reserve should be reached. This would create a vacuum in the circulating medium which would be filled by silver. The amount of United States notes would be gradually reduced until the whole were extinguished; silver dollars or silver certificates would take the place of United States notes as they were retired. This plan would make our currency more uniform and as secure as now.

Neither of these plans, if adopted, would diminish the actual or potential use of silver as currency by a dollar. In my judgment, it would be promoted thereby.

Our people will never consent that the money which is in every one's pocket shall become of less value than it was when the Government paid it to them, if it be in the power of the Government to make it good.

The trade-dollars have been practically redeemed in gold under act of Congress, although they were held by but few persons, were intrinsically worth more than the standard dollar, and had far less equitable claim for redemption than would the standard dollar. If ever the time comes when the standard dollar goes to a discount, the people, in the

pockets of almost every one of whom will be found more or less of those dollars, will emphatically demand that they, too, shall be redeemed in gold or made as good as when issued, and that the purchase of silver bullion stop. If the plan above suggested were now adopted, they would probably never go to a discount—surely not except under altogether extraordinary circumstances; and yet the public would have a supply of them limited only by the need and demand of the people for them. I recommend that a law to the above effect be enacted.

NATIONAL BANKS.

During the year ending October 31, 1887, there have been 225 new banks organized—capital, \$30,546,000; circulation, \$4,690,375.

Thirty-three banks have been closed during the same period, of which twenty-five have gone into voluntary liquidation and eight have failed. These 33 banks had an aggregate capital of \$4,087,450, and their outstanding circulation amounts to \$1,122,836.

The total number of national banks organized to date has been 3,805, of which 3,219 have been formed under the acts of Congress and 586 have been converted from State institutions. Of the first class, 556 have gone into voluntary liquidation and 100 have failed, leaving in existence 2,563.

Of the second-class, 69 have gone into voluntary liquidation and 19 have failed, leaving in operation 498.

Total in operation 3,061, being the largest number yet reached. The following-named items show net increase during the year, viz: Capital stock, \$30,572,325; surplus, \$16,664,250.10; deposits, \$76,508,818.31.

The decrease during the year in United States bonds held for all purposes is \$82,505,900.

IMMIGRATION.

The State commissioners, heretofore employed under contracts made in pursuance of the provisions of the act to regulate immigration, have continued to conduct the local affairs of immigration at their respective ports during the last fiscal year. The ports at which commissioners are now stationed are as follows: Baltimore, Boston, Galveston, Key West, New Orleans, New York, Philadelphia, Portland, (Me.), and San Francisco. At none of the other ports was the business deemed sufficient to justify the employment of a commissioner.

The receipts of capitation-tax for the year ended June 30, 1887, were \$257,879.50. These receipts constitute the immigrant-fund, which is created by a tax of fifty cents per head for alien passengers arriving from foreign countries in ports of the United States. This tax is collected not only for *bona fide* immigrants, but for all alien passengers, including tourists and other sojourners, and on each recurring arrival of such alien. The tax, however, is not collected for immigrants coming from foreign contiguous territory.

The expenditures during the year were \$164,070.57, thus leaving a balance to the credit of the fund of \$93,808.93.

The Department has endeavored to secure uniformity in the methods of transacting the business by the commissioners employed at the several ports, but the efforts in that direction have not been entirely successful. The execution of the law has thus been embarrassed by a want of uniformity in the performance of their duties by the several boards of commissioners. This is due in great measure to the administration of the business through the agency of officers appointed by State governments, over whom the Secretary of the Treasury, who is charged with the execution of the law, has no control except by contract, which he has no adequate means of enforcing.

It is recommended that the existing law be so amended that, in addition to the provision prohibiting the landing of aliens liable to become a public charge, idiots, lunatics, and convicts, a fine reasonable in amount should be imposed upon the master of the vessel for every such person brought by him to this country, and that such fine be made a lien upon the vessel.

Provision should also be made that, where aliens, after having been landed, are found, within a time to be fixed, to be of either of the classes whose landing is prohibited, they should be deported by or at the expense of the master or owner of the vessel bringing them, and, on failure to do so, such master or owner to be subject to fine.

The following statement exhibits the receipts and expenditures on account of immigration at the several ports during the fiscal year ended June 30, 1887:

Ports.	Receipts.	Expenditures.
Astoria.....	\$0 50	.....
Baltimore.....	17,640 50	\$6,739 01
Barnstable.....	25 50	.....
Boston.....	18,409 50	9,377 78
Charleston.....	3 50	.....
Galveston.....	231 50	778 00
Key West.....	3,227 00	2,153 65
Mobile.....	50	.....
New Bedford.....	240 50	.....
New Haven.....	3 00	.....
New London.....	1 00	.....
New Orleans.....	1,210 50	134 83
New York.....	193,257 50	135,146 60
Pearl River.....	1 50	.....
Pensacola.....	13 50	.....
Philadelphia.....	15,566 00	7,101 60
Portland.....	775 50	202 80
Providence.....	50	.....
Puget Sound.....	3 00	.....
Savannah.....	50	.....
San Francisco.....	7,116 00	2,435 30
St. Augustine.....	5 00	.....
St. John's.....	15 00	.....
Willamette.....	24 50	.....
Yorktown.....	127 50	.....
Aggregate.....	257,879 50	164,070 57

INTERNAL REVENUE.

The report of the Commissioner of Internal Revenue, herewith transmitted (page 317), sets forth in detail the condition of this branch of the public service:

Statement showing the receipts from the several objects of taxation under the internal-revenue laws for the fiscal years ended June 30, 1886 and 1887, respectively.

Sources.	1886.	1887.	Increase.	Decrease.
Spirits.....	\$69,092,266 00	\$65,829,321 71		\$3,262,944 29
Tobacco.....	27,907,362 53	30,108,067 13	\$2,200,704 60	
Fermented liquors.....	19,676,731 20	21,922,187 49	2,245,456 20	
Oleomargarine.....		723,948 04	723,948 04	
Bank circulation.....		4,288 37	4,288 37	
Penalties, &c.....	194,422 45	220,204 83	25,782 38	
Collections under repealed laws.....	32,087 17	29,283 49		2,803 68
Total	116,902,869 44	118,837,301 06	1,934,431 62	

The amount of collections above reported includes certain sums collected but not deposited during the fiscal years named; thus causing a discrepancy to appear between the amounts collected and the amounts covered into the Treasury by warrants.

The Commissioner, in his report, reiterates his recommendations in previous reports to the effect that the law be amended so as to provide for the taxation of fractions of gallons of distilled spirits; to authorize the distillation of brandy from all kinds of fruits under the exemptions now accorded to distillers of brandy from apples, peaches, and grapes exclusively, and to provide for the storage of all kinds of fruit brandy in special bonded warehouses. He also recommends that the tax on reimported domestic spirits be treated as an internal-revenue tax, and levied upon the quantity drawn from the distillery warehouse, or to require the duty payable under section 2500 of the Revised Statutes, to be paid with interest at a rate to be determined by Congress, the interest to run from the date of the withdrawal from the distillery warehouse, or from the date of payment of the drawback, as the case may be.

He also points out the great disparity between the special taxes and the tax on the article itself in the oleomargarine law, which leaves it in doubt as to whether the law should be construed as a protective measure, or as a prohibitory measure. He suggests a simplification of the statute, if it is to be simply an internal-revenue measure, and submits certain information, including bills introduced and laws passed by other countries, as valuable aids to Congress, whether the law is to be perfected either as a protective measure or as a prohibitory measure.

In my opinion, the adoption of the amendments proposed by the Commissioner of Internal Revenue would remove certain existing ine-

qualities in the payment of tax. His recommendations are therefore approved.

I would also recommend that the law relative to oleomargarine be carefully reconsidered by Congress, and so amended as to render it more efficient as a means of protecting the people from being imposed upon through the sale of this article as butter.

ENGRAVING AND PRINTING.

The appropriations for the support of the Bureau of Engraving and Printing for the fiscal year were \$795,008.30, and the estimated number of sheets of securities to be produced, 29,532,550. The actual expenses were \$794,477.90, and the number of sheets of securities turned out during the year, 32,652,207. The delivery to the Treasurer of the United States of the new silver certificates of the denomination of one dollar began September 20, 1886; of the two-dollar certificates, November 27, 1886, and of the five-dollar certificates, February 9, 1887. To October 31, 1887, there had been delivered to the Treasurer for issue certificates of these denominations amounting to \$47,944,000, of which \$17,916,000 was in one-dollar certificates and \$11,128,000 in two-dollar certificates.

Under the authority given in the last appropriation act, all of the officers, clerks, and employes of the Bureau, except the plate-printers and their assistants, were on July 1, 1887, placed on annual salaries, instead of daily wages, and the number to be employed in each grade was fixed by a Departmental order. No difficulty has been found in carrying on the work under this organization. In order to place this establishment on the same permanent footing as the other bureaus of the Department, it is, however, desirable that its organization should be fixed by law. The estimates for the next fiscal year accordingly set forth the number of persons to be employed in each grade and the salaries they are to receive.

The great increase in the quantity of securities which the various branches of the Government estimate that they will require during the next fiscal year has made it necessary to submit an estimate of an increased appropriation for the support of the Bureau. The estimated number of sheets of securities to be printed is 51,150,050, as against an estimated production of 34,992,794 sheets during the current fiscal year. The estimated appropriation is \$1,152,915. The appropriation for the current year is \$918,030. The increase in the quantity of work to be done is more than 46 per cent., while the increase in the appropriation asked for is only 25½ per cent.

REVENUE MARINE.

There has been an increased performance of work by the revenue cutters. The officers of this service have discharged their duties with energy and fidelity, and the vessels in their charge have been safely and skilfully navigated on harbor and coasting duty and on extensive cruises.

Thirty-eight vessels have been in commission during the year, and a new steamer has just been placed for boarding duty on the Mississippi river. The total number of persons employed in this service is 1,046.

The following is the record of regular duty for the year ending June 30, 1887:

Aggregate number of miles cruised by vessels.....	351,395
Number of merchant-vessels boarded and examined.....	31,586
Number of merchant-vessels found violating law in some particular and seized or reported to proper authorities.....	1,283
Fines or penalties incurred by vessels so seized or reported.....	\$393,961.70
Number of vessels in distress assisted.....	207
Value of vessels and their cargoes imperilled by the sea to which assistance was rendered.....	\$4,969,450.00
Number of persons on board vessels assisted.....	3,106

Forty-two persons were picked out of the water and saved from drowning.

The revenue-marine steamers "Rush" and "Bear" have been actively engaged in enforcing the laws which prohibit the killing of fur-seals in the Territory of Alaska and the waters thereof, except, under the supervision of the Government, at the Islands of St. Paul and St. George.

Capt. L. G. Shepard, commanding the "Rush," cruised during the summer between Ounalaska and the Pribylov Islands, and seized seven American and five British vessels, having on board 6,307 seal-skins.

Capt. M. A. Healy, in command of the "Bear," also seized two American and one British vessel, in the latter part of the season, having on board 5,155 seal-skins. The "Bear," besides participating in the work of protecting seal life, proceeded as far north as Point Belcher, in the Arctic Ocean. At Port Clarence news was received of the probable survival of one or more of those on board the whaling-bark "Napoleon" when she was wrecked in May, 1885. The "Bear" visited the Siberian coast, and forty-five miles west of Cape Navarin found J. B. Vincent, the sole survivor of eighteen who landed on the ice from the lost vessel. It is highly advisable that a moderate sum be used in purchasing suitable articles to be sent by the next revenue cutter visiting those waters as a reward to the natives who, in a condition

very near starvation, sheltered and fed Vincent and his unfortunate companions.

At St. Michaels, Third Lieut. C. D. Kennedy, of the "Bear," acting as deputy United States marshal, arrested the murderer of Bishop Seghers, and delivered the prisoner to the "Rush," at Ounalaska, for transportation to Sitka. Six destitute miners were taken on board the "Bear," and given passage to Ounalaska.

Material assistance has been given, as customary, by the officers and vessels of this service to the Life-Saving Service. The distance cruised while performing this duty aggregated 16,643 miles.

The expenditures of the Revenue-Cutter Service for the year 1887 were about \$890,000.

This service requires the immediate replacement of a considerable number of its vessels with new ones fully adapted to the requirements of the work to be performed. In this way alone can proper efficiency be secured and real economy in expenditures be brought about.

The revenue-marine steamer "McCulloch," on the Charleston station, is practically worn-out, and should be disposed of and a new one constructed.

The vast extent of the sounds of North Carolina, with numerous bays and rivers, and an extensive and increasing commerce greatly in need of the protection afforded by this service, is guarded by the revenue-marine steamer "Stevens," no longer fit for regular duty. A new vessel should be provided for this station as soon as possible.

The revenue cutters doing harbor boarding duty are in proportion less adequate to the duties they are called upon to perform than the cruising-vessels. Not only have these vessels been greatly deteriorated by age, but in original design they barely met the requirements of a commerce that, since their construction, has increased greatly in volume, and which is now carried on in vessels of remarkable size and speed.

The following revenue-marine steamers doing harbor boarding duty, the "Hamlin," at Boston, the "Washington," at New York, the "Tench Coxe," at Philadelphia, the "Penrose" at Galveston, and the "Hartley," at San Francisco, should all be disposed of, and their places filled with new vessels equal to the proper performance of the duties required of them.

The recommendations made in this report for new vessels, it is estimated, would require \$350,000; and what might be realized from the sale of the old vessels when replaced.

LIFE-SAVING SERVICE.

The past year has been in many respects a notable one in the history of the Life-Saving Service. The winter was unusually severe, and the number of marine disasters exceeded that of any year previous. Many of the vessels involved were of the larger class, and included several passenger steamships, and more persons and greater values were therefore imperilled. But although the rigor of the weather made the operations of the life-saving crews peculiarly difficult and hazardous, yet in nearly every instance they were eminently successful, and resulted in the saving of a greater number of lives and a larger amount of property than in any former year.

The statistics of operations within the scope of the Service are as follows:

The number of disasters to documented vessels was 332. The number of persons on board was 6,327, of whom 6,272 were saved, and 55 lost. The value of the property involved is estimated at \$7,075,700, of which \$5,788,820 was saved, and \$1,286,880 lost. The number of vessels totally lost was 72. Besides the foregoing, there were 135 disasters to smaller craft, (sail-boats, row-boats, &c.,) on which were 274 persons, 271 of whom were saved, and 3 lost. The value of property involved in the latter disasters was \$96,830, of which \$92,915 was saved, and \$3,915 lost. The following is the aggregate:

Total number of disasters.....	467
Total value of property involved.....	\$7, 172, 530
Total value of property saved.....	\$5, 881, 735
Total value of property lost.....	\$1, 290, 795
Total number of persons on board.....	6, 601
Total number of persons saved.....	6, 543
Total number of persons lost.....	58
Total number of persons succored at stations.....	737
Total number of days' succor afforded.....	1, 894
Number of vessels totally lost.....	72

There were, besides the persons saved as above shown, twenty-three other persons rescued, who had fallen from wharves, &c., and would probably have perished but for the aid of the life-saving crews. With the exception of the year preceding, the assistance rendered in saving vessels and cargoes has been greater than ever before, no less than 393 vessels having been aided in getting afloat when stranded, repaired when damaged, piloted out of dangerous places, and helped in similar ways by the life-saving crews. In 210 instances, vessels in danger of stranding were warned off by the signals of the patrolmen.

The number of stations in the Service at the close of the year was 218, and the cost of their maintenance during the year was \$834,985.36.

Seven new stations were completed and put in commission during the year, their respective locations being as follows: North Scituate, Mass.; and Frankfort, Pent Water, White River, Holland, South Haven, and Sturgeon Bay Canal, on Lake Michigan. Two others, one at Cape Elizabeth, Maine, the other at Cape Lookout, North Carolina, have been completed, and are about to be put in operation.

Five stations were rebuilt during the year, at Block Island, Rhode Island; at Ditch Plain and Georgica, on Long Island, and at Shark River and Townsend's Inlet, coast of New Jersey. There are now rebuilding, under contract, the Naragansett Pier and New Stoneham Stations, Rhode Island; the Far Rockaway Station, Long Island, and the Bond's Station, New Jersey. Extensive repairs and alterations have been put upon 22 stations on different portions of the coast, and there are 17 others now in process of renovation and improvement.

MARINE-HOSPITAL SERVICE.

The relief furnished by the Service during the past year is greater than at any other in the history of the Service; 45,314 patients were treated, and 331,701 days' relief in hospital have been furnished, and the character of the accommodations is steadily improving as new hospitals are opened and old ones modernized.

The recommendation is renewed for the establishment of a marine hospital at the port of New York, because the necessities for a marine hospital are as great as ever, and because we cannot have as efficient a hospital in a leased building as in one owned by the Government. The reasons are plain—first, because articles of furniture supplied to leased hospitals are limited in amount, and, second, little in the way of alterations can be attempted, and no improvements of the building involving expense can be considered. From an economic point of view, it would be in the interest of the Government to own an establishment of its own in New York harbor, even if there were no other considerations.

The hospitals are generally in fair condition, with the exception of certain additional buildings required at Wilmington and Detroit, where there is insufficient room for the Service, extensive repairs needed at Boston, and the grading of the grounds at Chicago and at New Orleans. The recommendation heretofore made for the establishment of a National Sailors' Home for the reception of aged and worn-out sailors is renewed.

The law of April 29, 1878, known as the National Quarantine Act, has been carried out as fully as the contingent appropriation at the disposal of the Bureau would permit, and in accordance with my direction the publication of the weekly abstracts of sanitary information received has been resumed. These abstracts have been of great service to health officers throughout the country and to quarantine officers generally. The four quarantines maintained by the Bureau, namely, at Ship Island, Sapelo Sound, Cape Charles, and Delaware Breakwater, have been maintained during the quarantine season, and the Ship Island station throughout the year. None of the stations have been provided with modern appliances for the disinfection of ships and the proper handling of cargoes, for the simple reason that these appliances involve the construction of wharves and suitable vessels for the machinery, and there is no fund out of which the expense could be met.

The Cape Charles quarantine station is on a leased island, and although it can be bought for \$5,000, there is no authority of statute for its purchase. A defect in the quarantine act, needing legislative remedy, is that this law has no penalty for the violation of its provisions.

Aid has been extended to Florida in supplying the hospital at Key West, and furnishing nurses and providing a temporary refuge station at Egmont Key, and recently aid has been extended to Tampa, in the construction and maintenance of a temporary hospital, with medical supplies and nurses. A suitable quarantine station on one of the Florida keys is an urgent necessity, for the prevention of the regular inroads of yellow fever on the west coast of Florida. The demand for the Governmental control of seaboard quarantines is becoming yearly more pronounced, and the recent threatened introduction of cholera at New York has emphasized it, but I cannot too strongly urge the necessity for specific appropriations for the creditable management of the quarantines now controlled by the Department.

The expenses of the general service have been \$461,336.19, and the receipts from all sources \$570,227.62.

From special appropriations for repairs and preservation of marine hospitals; furniture and repairs of furniture; vaults, safes, and locks; fuel, lights, and water; heating, hoisting, and ventilating apparatus, the expenditures were \$77,817.61.

From the balance of the fund placed at the disposal of the President for the prevention of the spread of epidemic diseases, there have been expended \$48,649.28, and the unexpended balance, June 30, 1887, was

\$217,193.72. This balance should be reappropriated to meet the contingencies of the service next year, in addition to the special appropriations necessary for the equipment of the quarantines.

STEAMBOAT-INSPECTION SERVICE.

The *personnel* of the Service on the 30th June, 1887, was composed of 47 officers, clerks, and messengers, as follows: One Supervising Inspector-General, ten supervising inspectors, thirty-eight inspectors of hulls, ten assistant inspectors of hulls, thirty-eight inspectors of boilers, ten assistant inspectors of boilers, one assistant inspector to examine life-preservers, ten special inspectors of foreign steam-vessels; one chief clerk, three clerks, and one messenger to the Supervising Inspector-General; one clerk and messenger to the supervising inspector at New York city, twenty-two clerks to the local boards of inspectors, and one clerk to the special inspectors of foreign steamers at New York.

The offices of Supervising Inspector-General, supervising and local inspectors of steam-vessels, clerks, &c., are organized under the act of Congress approved February 28, 1871, now Title 52, Revised Statutes.

The special inspectors of foreign steam-vessels are organized under the amendment to section 4400, Title 52, Revised Statutes, approved August 7, 1882.

STATISTICS OF THE SERVICE FOR THE LAST FISCAL YEAR.

Table giving the statistics of the different divisions of the country.

Divisions.	Steamers.	Net tonnage.	Officers licensed.
Pacific coast	458	118,515.96	2,057
Atlantic coast.....	2,730	482,321.12	11,336
Western rivers.....	1,041	181,944.24	5,996
Northern lakes.....	1,462	315,537.34	6,226
Gulf coast.....	429	61,957.11	2,373
Total	6,120	1,160,275.77	27,988

Increase in number of vessels inspected over the preceding year.....	376
Increase in the tonnage of vessels inspected over the preceding year.....	78,527.36
Increase in number of officers licensed.....	2,208

Expenditures.

Salaries Supervising Inspector-General, supervising, local, and assistant inspectors, paid from funds in the Treasury not otherwise appropriated, act approved June 19, 1886, (appointments authorized by sections 4402, 4404, and 4414, Revised Statutes)..... \$184,200 60

Contingent expenses, paid from the indefinite appropriation of the surplus revenues in the Treasury received from fees for inspecting steam-vessels and licensing officers, for the payment of clerical help authorized by section 4414, Revised Statutes, fees to United States marshals and witnesses, section 4451, Revised Statutes, and travelling and other expenses, when on official duty, of the Supervising Inspector-General, supervising, local, and assistant inspectors, and all instruments, books, blanks, stationery, furniture, and other things necessary to carry into

effect the provisions of Title 52, Revised Statutes, authorized by section 3689, Revised Statutes:

Salaries of clerks.....	\$29,880 24
Travelling and miscellaneous expenses.....	32,890 64
Clerk, messenger, and room-rent for Board.....	183 00
Stationery for supervising and local inspectors.....	889 89
Engraving, printing, and binding officers' licenses.....	1,235 40
New instruments.....	112 00
Reconstructing three testing-machines.....	767 80
Marshals' and witnesses' fees.....	664 40
	<hr/>
	\$66,623 37

Total expenditures.....	250,823 97
Unexpended balance in the Treasury standing to the credit of the Steam-boat-Inspection Service, June 30, 1887.....	244,813 39

Notwithstanding an increase of 376 steamers inspected and 2,208 officers licensed over the previous year, and an extraordinary expense incurred of \$767.80 for the reconstruction of three iron-testing machines, the contingent expenses of the Service have been \$1,797.81 less than they were in the fiscal year preceding.

Number of accidents during the year resulting in loss of life.

Nature of casualty.	Number of casualties.	Number of lives lost.
Fires.....	5	68
Collisions.....	24	34
Breaking of steam-pipes and mud-drums.....	9	13
Explosions.....	4	11
Snags, wrecks, and sinking.....	4	94
Total.....	<hr/> 46	<hr/> 220

Number of lives lost in 1886.....	189
Number of lives lost in 1887.....	220

Increase in 1887.....	38
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Of the number of lives lost in 1887, 74 were passengers and 146 were officers or persons employed on the steamers.

It is estimated that fully five hundred million (500,000,000) passengers were carried on steam-vessels during the year.

Inspection of foreign steam passenger-vessels under the act of Congress approved August 7, 1882.

Annual inspection—

At New York.....	137
At Boston, (including seven inspections at Portland, Me.).....	24
At Philadelphia, (including one inspection on the lakes).....	10
At Baltimore, (including forty-eight inspections on the lakes).....	59
At New Orleans.....	13
At San Francisco.....	6

Total.....	249
Intermediate inspections.....	2,086

Expenses of the foreign service for the fiscal year.

Salaries.....	\$21,500 00
Travelling and contingent expenses.....	1,467 09
	<hr/>
Total expenses.....	22,967 09

Important changes were made in the steamboat laws, by an act approved June 19, 1886, the most prominent being that which abolished, in substance, the provisions of section 4458, Revised Statutes, authorizing the collection of fees for the inspection of steam-vessels, and the licensing of officers for such vessels; also in substance repealing so much of section 4461, Revised Statutes, as authorized the fees collected under section 4458 of the statutes to be permanently appropriated for the payment of "the salaries of the Supervising Inspector-General, of all the supervising inspectors, local inspectors, assistant inspectors," such salaries to be paid instead, from and after July 1, 1886, from any moneys in the Treasury not otherwise appropriated. By an oversight of the committee having the bill in charge, the bill failed to make provision for the payment of clerks, travelling expenses of officers when on official duty, and other contingent expenses referred to in section 4461, Revised Statutes, which provided for such expenses to be paid from the fees provided in section 4458, Revised Statutes.

This oversight will sooner or later have to be remedied by supplemental legislation. Such legislation was recommended to Congress in a special message from the President of the United States, dated June 19, 1886, (page 6222, Congressional Record, June 20, 1886.) The recommendation was promptly acted upon by the passage of a bill in the Senate to remedy the defect. This bill was reported favorably by the Committee on Commerce of the House of Representatives, and placed on the calendar, but never acted upon thereafter. Attention is called to the necessity of legislation on the subject referred to.

THE LIGHT-HOUSE SERVICE.

The Light-House Board reports the changes in aids to navigation as shown in the following table:

	June 30, 1886.	June 30, 1887.	Increase.	Decrease.
Light-houses, light-ships, and stake-lights, including those on the rivers.....	1,994	2,031	37	
New lights of all kinds established during the year.....	105	75		30
Lights discontinued during the year.....	60	38		22
Steam and hot-air fog-signals.....	76	77	1	
Whistling buoys in position.....	40	45	5	
Bell buoys in position.....	44	51	7	
Lighted buoys in position.....	2	4	2	
Other buoys in position.....	3,758	3,867	109	

The Light-House Board is still unable to complete the construction of the much-needed light-house on Northwest Seal Rock, (St. George's reef,) off Crescent City, California, owing to insufficient appropriations. It is hoped that funds may be promptly provided for this purpose.

The Board calls attention to the imminent danger that the high iron tower at Hunting Island Light-station, South Carolina, will be undermined and overthrown by the encroachments of the sea. This tower cost \$102,000. The Board asks half that sum with which to buy a new site and place the structure upon it. Failure to provide the means to save this tower may, as in the case of the Mosquito Inlet structure, Florida, cost the Government in the future twice the sum asked now.

The Board also asks \$8,000 with which to establish a light at Lake Borgne, Louisiana, to take the place of the light at St. Joseph's Island, as the latter is being washed away so rapidly that it is now impracticable to save the station. The Board also asks \$25,000 with which to establish Humboldt Light-station, California, upon a more secure site, that occupied by it at present being so seriously threatened that it is believed it will be overthrown by the next severe storm. The Board also asks \$25,000 to enable it to replace the Pamlico Point light-house, North Carolina. When this was asked last year it was stated that the structures were in imminent danger from the encroachments of the sea. The Board now reports that it has been forced to discontinue the light, much to the inconvenience of the commerce of the sound. The interests of navigation demand that the light should be replaced at the earliest day practicable.

Mineral oil is now used as an illuminant throughout the whole of the Light-House Establishment to the complete exclusion of lard oil, the illuminant formerly used, making a large saving in cost and increasing the celerity of lighting and the certainty of maintaining lights in the colder parts of our coasts.

Attention is called to the Board's statements as to its cramped quarters, and especially as to the danger to its archives, and its need for a special building for its offices, museum, and laboratory.

The need shown by the Board for light-house and buoy depots in the new light-house districts established under the authority of recent laws seems to demand early attention.

The loss of the light-house schooner "Mignonette," in the hurricane of 21st September, 1887, makes it necessary that an early appropriation be made for supplying her place.

COAST AND GEODETIC SURVEY.

The progress of the work has been commensurate with the means afforded by Congress, although necessarily restricted by the large reduction made in the estimates approved by the Department.

Field operations, including triangulation and topography, astronomical and magnetic work, were carried on within the limits or on the

coasts of twenty-seven States, three Territories, and in the District of Columbia. Hydrographic surveys were prosecuted in the waters or off the coasts of seventeen States and two Territories.

Effort was concentrated in pushing to completion important surveys already in progress, and in beginning those imperatively demanded by the interests of commerce and navigation. Special attention was given to the study of the physical changes in Monomoy and its shoals; to the completion of the resurveys of Long Island Sound and of New York Harbor and its approaches; to the formation and movement of ice and of shoals in Delaware River and Bay; to the investigation of the currents of the Gulf Stream; to resurveys of the harbors of San Francisco and San Diego, and to the preparation of a new and greatly enlarged edition of the Pacific Coast Pilot. The publication of a Quarterly Notice to Mariners was continued, and arrangement made for notices of the same general character to appear monthly. These quarterly and monthly notices are in addition to the occasional notices announcing dangers to navigation or giving information of value to navigators. They contain all corrections made on charts during the month or quarter with lists of charts cancelled, new editions and charts in preparation.

Advance was made in the special triangulation begun in 1884 at the request of the Commissioners of the Topographical Survey of the State of Massachusetts; the surveys asked for by the Harbor Board of Baltimore, to define port-warden lines in that harbor, and to connect them with the triangulation, were made; the boundary line between the States of Virginia and North Carolina was determined, at the request of the commissioners of those States; hydrographic resurveys and examinations were made at New Inlet, North Carolina; Saint Simon's Sound, Georgia, and at Atchafalaya Bay, Louisiana. A special examination was made in Charleston Harbor, to determine any changes of depth due to the effects of the earthquake. On the coasts of California and Oregon, of Washington Territory and of Alaska, in the Columbia River, and in Puget, Washington, and Possession Sounds, surveys were in active progress.

The basis for accurate national and State surveys afforded by the transcontinental triangulation authorized by act of Congress, March 3, 1871, and intended to connect the work on the Atlantic and Pacific coasts, has been extended by the continuation of geodetic operations in the States of Pennsylvania, New Jersey, Tennessee, Indiana, and Wisconsin, and by a survey begun towards the close of the fiscal year in the State of Minnesota.

In the office, which is charged with the duty of making the results of field-work accessible to the people and to the Government by the speediest and most economical methods, there were published 24 new charts and 9 new editions of charts, 10 new charts and 4 new editions being from engraved plates, 14 new charts and 5 new editions from photolithographs. There were printed 37,407 charts, of which number 31,007 were from engraved plates and 6,400 from photolithographs. Distribution was made of 34,019 copies of charts. Of this number, 8,624 were for the use of the Executive Departments, 2,515 for Congress, and 21,010 were sent to agents for sale.

Twelve Notices to Mariners were issued during the year, and 12,000 copies of these notices were printed for distribution. Tide-tables, predicting for 1888 the times and heights of the tide on the Atlantic and Pacific coasts, were in preparation and are now published. Upwards of 480 copies of the third edition of Subdivision No. 13, Atlantic Local Coast Pilot, including the south coast of Long Island, New York Bay, and Hudson River, were published. The manuscript of a new edition (the fourth) of the Pacific Coast Pilot was nearly complete for publication.

Of the annual reports for various years, 2,801 copies were distributed.

For the proper development and economical conduct of the work of the Survey, it is submitted that Congress should grant appropriations to the full amount of the approved estimates.

PUBLIC BUILDINGS.

There are under the control of this Department more than two hundred completed and occupied buildings to be cared for from the annual appropriations for "repairs and preservation," "vaults, safes and locks," and repairs to heating apparatus; and during the past year work of construction and repairs specially appropriated for have been prosecuted upon sixty-three buildings, of which number four have been completed, involving a total expenditure of \$3,261,373.82, which is fully accounted for in the report of the Supervising Architect of this Department.

The total expenditures during the year for sites, construction of new buildings, and repairs specially appropriated for aggregate \$2,841,139.55; for repairs and preservation of completed buildings, \$229,072.14; for heating apparatus and repairs to same, \$135,454.72; for vaults, safes, and locks, \$52,068.86, and for photographing plans for public buildings, \$3,638.55.

After a careful consideration of the method that has been pursued in the past in appropriating money for the construction of public build-

ings, I am convinced that a great saving of time and money would be secured if the full amount of the limit of cost should be appropriated in one sum, so that the work of construction might be uninterruptedly pursued, and thus avoid a suspension of work by reason of the exhaustion of a partial appropriation. If this method should be adopted, the unfortunate delay experienced by the Department up to this time, in completing the public buildings, would be avoided, and the large sums required for the rental of private buildings on account of this delay be saved to the Government.

It may be stated that the estimates for some of the buildings now in course of erection were prepared as far back as 1882, the basis for which were the rates prevailing at that time, but, by reason of the great advance in the price of labor and material since that date, owing to the prosperous condition of the building trade, contracts cannot be secured, even after the most public advertisement, except at greatly increased prices, thus rendering it impossible to complete the buildings as originally designed, and sometimes requiring the omission of important parts of the work.

New Quarters.

It is deemed very desirable that an appropriation should be made for office accommodations, outside of the Treasury building, for the architectural division of this Department, as the present quarters are insufficiently lighted and too contracted to permit the proper transaction of the delicate and important work under its supervision.

STATUTE OF LIMITATIONS.

The necessity for the passage of a statute of limitations constantly presses upon the attention of the accounting officers of the Government.

I call attention to the views expressed on this subject in the annual reports of the First and Second Comptrollers of the Treasury (pages 535 and 542, respectively).

HALL OF RECORDS.

I call attention to the oft-repeated recommendation of my predecessors in office to the necessity for the construction of a fire-proof building suitable for the storage of the files and records of the several Departments.

Many of these papers and records of great value are stored in unsafe and almost inaccessible places.

The Secretary of the Treasury transmitted January 17, 1883, plans and specifications prepared by the Supervising Architect for such a

building. I earnestly urge this matter upon the attention of the Congress, asking thereon favorable and speedy action.

DISTRICT OF COLUMBIA.

The net expenditures on account of the District of Columbia for the fiscal year 1887 were \$4,085,251.39. The revenues deposited in the Treasury on this account for the same period were \$2,367,869.01.

During the fiscal year 1887 there has been issued in payment for judgments of the Court of Claims \$3,150 of the 3.65 per cent. bonds. There has been retired through the operations of the sinking-fund, \$401,700 of the bonded indebtedness of the District, making a net reduction of \$398,550, and reducing the amount annually required for interest \$22,138.

Since the duties of the commissioners of the sinking-fund of the District of Columbia were devolved on the Treasurer of the United States by the act of Congress of June 11, 1878, (20 Stat., 106,) the bonded debt of the District has been increased \$837,700 by the issue of 3.65 per cent. bonds in exchange for certificates of the board of audit and in payment for judgments of the Court of Claims. There has been retired during the same period \$1,952,250 of the bonded debt, making a net reduction of \$1,114,550, reducing the annual interest charge \$84,068.22.

The amount realized from the sale of bonds in which the 10 per cent. retained from contractors with the District of Columbia was invested, as required by the act of June 11, 1878, exceeds the sum necessary to pay the amounts originally withheld. At the close of the fiscal year 1887 the surplus amounted to \$25,835.81, and has been covered into the Treasury as a miscellaneous receipt, to the credit of the United States and District of Columbia in equal parts, as required by law.

Detailed information in regard to the affairs of the District of Columbia will be found in the reports to be submitted by the District commissioners and by the Treasurer of the United States as ex-officio commissioner of the sinking-fund of the District.

The several reports of the heads of offices and bureaus are herewith transmitted.

CHARLES S. FAIRCHILD,
Secretary of the Treasury.

The Honorable

THE SPEAKER OF THE HOUSE OF REPRESENTATIVES.

PAPERS

ACCOMPANYING

REPORT OF THE SECRETARY OF THE TREASURY.

REPORT OF THE TREASURER OF THE UNITED STATES.

TREASURY OF THE UNITED STATES,
Washington, D. C., November 1, 1887.

SIR: I have the honor to submit the following report on the condition of the Treasury and its operations during the fiscal year ending June 30, 1887:

RECEIPTS AND EXPENDITURES.

The net receipts for the fiscal year were \$371,403,277.66, and the net expenditures \$267,932,179.97. The receipts were \$34,963,550.60 greater, and the expenditures \$25,449,041.47 greater, than the year before. The excess of the revenues over the expenditures was \$103,471,097.69, an increase of \$9,514,509.13 over 1886. A comparison in detail between the two periods is made in the following table:

	1886.	1887.	Increase.	Decrease.
Revenue from—				
Customs	\$192,905,023.44	\$217,286,893.13	\$24,381,869.69	.....
Internal revenue	116,805,936.48	118,823,391.23	2,017,454.74	.....
Sale of public lands	5,630,999.34	9,254,286.42	3,623,287.08	.....
Miscellaneous sources	21,097,767.80	26,038,706.89	4,940,939.09	.....
Total	336,439,727.06	371,403,277.66	34,963,550.60	.....
Expenditures on account of—				
Civil and miscellaneous:				
Customs, light-houses, public buildings, etc.	24,165,246.36	23,795,933.12	.....	\$369,313.24
Internal revenue	4,113,319.90	4,070,126.59	.....	43,193.31
Interior civil (lands, patents, etc.)	7,308,224.44	7,821,225.31	515,000.87	.....
Treasury proper (legislative, executive, and other civil). ..	33,323,749.66	38,342,337.73	5,018,588.07	.....
Diplomatic (foreign relations) ..	1,332,320.68	7,104,490.47	5,772,169.59	.....
Judiciary and quarterly salaries	3,926,068.61	4,130,712.37	204,643.76	.....
War Department	34,324,152.74	38,561,025.85	4,236,873.11	.....
Navy Department	13,907,887.74	15,141,126.80	1,233,239.06	.....
Interior Department (Indians and pensions)	69,504,022.20	81,223,624.48	11,719,602.28	.....
Interest on public debt	50,580,145.97	47,741,577.25	.....	2,838,568.72
Total	242,483,138.50	267,932,179.97	25,449,041.47	3,251,075.27
Net increase				
Surplus available for reduction of debt	93,956,588.56	103,471,097.69	9,514,509.13	.....

The receipts on account of the Post-Office Department, not included in the above statement, were \$54,752,347.42, which is an increase of \$1,755,212.16 over the receipts of last year. The expenditures increased from \$50,682,585.72 in 1886 to \$53,583,835.03 in 1887, or \$2,901,249.31. Of the total receipts \$28,031,949.72 was received and disbursed by postmasters without having been deposited in the Treasury.

SUMMARY OF OPERATIONS.

There were redeemed during the year bonds of the United States amounting to \$127,911,950, of which \$47,894,200 were applied to the sinking fund.

The payments of interest on the registered bonds of the United States, including bonds issued to the Pacific Railway companies, were made by 219,436 checks, amounting to \$39,755,876.52. Coupons were also paid at the Treasury and the various sub-treasury offices, amounting to \$7,002,094.83.

The payment of the warrants of the Secretary of the Treasury required the issue of 55,157 drafts; 78,453 drafts on warrants of the Postmaster-General and 26,176 transfer checks on assistant treasurers were issued, making a total of 379,222 drafts and checks issued by the office during the year.

Circulating notes of national banks amounting to \$87,689,687.15 were received for redemption.

United States notes unfit for circulation of the value of \$74,068,000 were redeemed and destroyed, and new notes of a like amount were issued.

Silver certificates to the amount of \$51,852,000 were issued, \$22,286,525 were redeemed, and the amount nominally outstanding at the close of the fiscal year was \$145,543,150.

There were redeemed during the year gold certificates amounting to \$9,687,428.

The national banks paid into the Treasury on account of semi-annual duty on their circulation the sum of \$2,044,922.75, which was \$547,098.58 less than was paid on that account the preceding year.

Interest, amounting to \$415,120.70, on registered bonds of the District of Columbia, was paid by 973 checks, and coupons from such bonds, amounting to \$95,250.16, were examined and paid.

The national banks withdrew \$126,188,750 in bonds held by the Treasurer of the United States in trust to secure their circulating notes, and \$42,180,650 in bonds were deposited for that purpose.

There were also deposited by national banks designated as depositaries \$15,251,500 in bonds to secure public funds, and \$8,425,900 in bonds so held were withdrawn.

The total movement of bonds held for national banks during the year was \$192,046,800, and the total decrease of such bonds held by the Treasurer was \$77,182,500.

Bonds of the State of Indiana amounting to \$2,000, and belonging to the Indian trust fund, became due and were paid by the State during the year.

Past-due coupons from bonds of the Nashville and Chattanooga Railroad Company, amounting to \$153,540, were paid by the company.

The accounts of the disbursing officers of the Government on the books of the Treasury show that funds amounting to \$22,565,001.19 stood to their credit at the close of the year, \$4,162,363.80 of which was on deposit in the various national-bank depositaries.

Trade dollars amounting to \$7,254,363 were received in exchange for standard silver dollars and fractional silver coin.

The unavailable funds of the Treasury, June 30, 1887, were \$29,521,579.35, and those of the Post-Office Department \$37,277.06.

THE STATE OF THE TREASURY.

The net changes in the assets and liabilities of the Treasury during the year ending September 30, 1887, are exhibited below. It will be seen that the largest increase in the assets was in gold coin and bullion, and that this increase was greater than the decrease in the aggregate balance. The net silver in the Treasury, including fractional silver coin, trade dollars, and trade-dollar bullion, fell off \$20,965,395.17. The largest increase in the liabilities was in the funds for the redemption of national bank notes, and alone was greater than the change in the balance. The actual total assets, including certificates on hand, increased from \$582,738,300.20 to \$634,331,862.78.

	Assets.	Liabilities.	Total.
	<i>Increase.</i>	<i>Decrease.</i>	
Gold coin and bullion.....	\$34,705,623.49	.....
Deposits in national-bank depositaries.....	8,963,718.95	.....
Trade dollars.....	235,583.00	.....
Trade-dollar bullion.....	6,799,503.00	.....
Public debt and interest thereon.....	.....	\$3,759,929.86	
Treasurer's transfer checks and drafts outstanding.....	.....	2,020,221.88	
Treasurer United States, agent for paying interest on District of Columbia bonds.....	.....	205,923.32	
Total.....	50,769,873.44	11,986,075.06	\$62,755,448.50
	<i>Decrease.</i>	<i>Increase.</i>	
Silver dollars and bullion.....	26,143,181.95	.....
United States notes.....	19,304,970.75	.....
National-bank notes.....	137,241.50	.....
Disbursing officers' balances and small accounts.....	.....	10,525,926.26	
Funds for the redemption of national bank notes.....	.....	32,719,298.46	
Post-Office Department account.....	.....	57,348.30	
Total.....	45,585,400.20	43,802,573.02	88,867,073.22
Decrease in balance.....			20,132,524.72
Assets not available—			
Fractional silver coin.....	1,017,240.22	.....
Minor coin.....	187,177.30	.....
			2,104,426.52
Aggregate balance decreased.....			28,236,951.24

The assets and liabilities on September 30, 1886, and September 30, 1887, and the character of the assets at the latter date, are shown by the following statements:

STATEMENT OF THE ASSETS AND LIABILITIES OF THE TREASURY OF THE UNITED STATES, SEPTEMBER 30, 1886.

		Assets.	Liabilities.	Balances.
GOLD. —Coin.....	\$189,051,398.65			
Bullion.....	53,509,735.67			
		\$242,561,134.32		
Certificates.....	125,346,127.00			
Less amount on hand..	41,030,550.00			
Net gold.....			\$84,809,577.00	
SILVER. —Standard dollars.....	181,161,161.00			\$158,281,557.31
Bullion.....	3,877,541.44			
		185,038,702.44		
Certificates.....	117,943,102.00			
Less amount on hand..	22,032,650.00			
Net silver.....			95,910,252.00	
UNITED STATES NOTES		45,244,640.88		89,128,450.44
Certificates.....	7,895,000.00			
Less amount on hand..	280,000.00			
Net United States notes.....			7,615,000.00	
NATIONAL-BANK NOTES		364,452.50		37,623,640.88
DEPOSITS IN NATIONAL-BANK DEPOSITARIES		16,682,286.33		364,452.50
				16,682,286.33
Totals		489,891,216.47	187,834,829.08	302,056,387.47
Public debt and interest:				
Interest due and unpaid.....	1,931,702.01			
Accrued interest.....	8,998,016.50			
Matured debt.....	7,313,035.28			
Interest on matured debt.....	201,061.07			
Debt bearing no interest.....	3,524.75			
Interest on Pacific Railroad bonds due and unpaid.....	27,739.96			
Accrued interest on Pacific Railroad bonds.....	999,352.68			
Fractional currency redeemed.....	3,524.75			
One and two year notes redeemed.....	10.50			
Interest checks and coupons paid.....	107,370.95			
United States bonds and interest paid.....	315,849.97	436,756.17		
Totals.....		490,317,972.64	207,289,261.23	
Reserve for redemption of United States notes, acts of 1875 and 1882			100,000,000.00	
Fund held for redemption of notes of National banks "failed," "in liquidation," and "reducing circulation"	65,515,523.35			
Fund held for redemption of national-gold-bank notes	97,024.00			
Five per cent. fund for redemption of national-bank notes	10,856,751.34			
National-bank notes in process of redemption.....		1,917,974.89		
Post-Office Department account.....	4,929,621.29			
Disbursing officers' balances.....	22,676,967.45			
Undistributed assets of failed national banks.....	824,411.30			
Currency and minor coin redemption account.....	433,080.78			
Fractional silver coin redemption account.....	57,118.00			
Treasurer's transfer checks and drafts outstanding.....	6,307,180.95			
Treasurer U. S., agent for paying interest on D. C. bonds.....	346,184.73			
Interest on D. C. bonds paid.....		10,318.15		
Totals.....		492,246,265.68	419,333,124.42	
Assets not available:				72,913,141.28
Minor coin.....	296,021.76			
Fractional silver coin.....	26,846,612.76			
		27,142,634.52		27,142,634.52
Aggregate		519,388,900.20	419,333,124.42	100,065,775.78

REPORT OF THE SECRETARY OF THE TREASURY.

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STATEMENT OF THE ASSETS AND LIABILITIES OF THE TREASURY OF THE UNITED STATES, SEPTEMBER 30, 1887

		Assets.	Liabilities.	Balances.
GOLD. —Coin.....	\$182,520,827.80			
Bullion.....	108,620,958.01			
		\$291,150,813.81		
Certificates.....	127,138,071.00		*	
Less amount on hand..	28,945,338.00			
			\$98,193,633.00	
Net gold.....				\$192,957,180.81
SILVER. —Standard dollars.....	213,069,257.60			
Bullion.....	4,755,319.49	217,824,576.49		
Certificates.....	158,274,867.00			
Less amount on hand..	3,435,359.00			
			154,839,308.00	
Net silver.....				62,985,268.49
UNITED STATES NOTES		24,939,664.13		
Certificates.....	6,765,000.00			
Less amount on hand..	150,000.00			
			6,615,000.00	
Net United States notes.....				18,324,664.13
TRADE DOLLARS		295,533.00		295,533.00
TRADE-DOLLAR BULLION		6,799,503.00		6,799,503.00
NATIONAL-BANK NOTES		227,211.00		227,211.00
DEPOSITS IN NATIONAL-BANK DEPOSITORIES		25,651,000.28		25,651,000.28
Totals		566,888,301.71	259,647,941.00	307,240,360.71
Public debt and interest:				
Interest due and unpaid.....	2,106,247.47			
Accrued interest.....	8,323,200.86			
Matured debt.....	3,739,935.26			
Interest on matured debt.....	184,432.22			
Interest prepaid, not accrued, per Department Circular No. 90.....	1,092,988.81			
Debt bearing no interest.....	452.49			
Interest on Pacific Railroad bonds due and unpaid.....	16,769.96			
Accrued interest on Pacific Railroad bonds.....	969,352.68			
			10,483,379.75	
Fractional currency redeemed.....	452.49			
United States bonds and interest.....	1,094,611.70			
Interest checks and coupons paid.....	4,170,374.05			
Registered and coupon interest prepaid.....	1,900,195.31	7,165,633.55		
Totals		574,053,935.26	270,081,320.75	
Reserve for redemption of United States notes, Acts of 1875 and 1882.....			100,000,000.00	
Fund held for redemption of notes of national banks "failed," "in liquidation," and "reducing circulation".....	102,235,787.60			
Five per cent. fund for redemption of national bank notes.....	7,789,057.18			
			110,034,844.78	
National bank notes in process of redemption.....		2,761,222.52		
Post-Office Department account.....	4,986,969.59			
Disbursing officers' balances.....	32,172,375.47			
Undistributed assets of failed national banks.....	1,902,788.02			
Currency and minor coin redemption account.....	420.00			
Fractional silver coin redemption account.....	6,920.00			
Redemption and exchange account.....	435,000.30			
Treasurer's transfer checks and drafts outstanding.....	4,286,959.07			
Treasurer U. S., agent for paying interest on D. C. bonds.....	134,743.26			
			43,926,175.71	
Interest on D. C. bonds paid.....		4,800.00		
Totals		576,822,957.78	530,042,341.24	
Balance.....				40,780,619.54
Assets not available:				
Minor coin.....	108,844.46			
Fractional silver coin.....	24,029,363.54	25,038,208.00		25,038,208.00
Aggregate		601,861,165.78	530,042,341.24	71,818,824.54

PAPERS ACCOMPANYING THE

STATEMENT SHOWING BY OFFICES THE CHAR

Office.	United States notes and fractional currency.	Redeemed certificates of deposit.	National-bank notes.	Gold coin and bullion.	Gold title
<i>Treasury and sub-treasuries:</i>					
Washington	\$2,450,251.06	.....	\$2,764,222.52	\$25,116,389.30	\$5,21
Baltimore.....	1,498,134.00	\$60,000	7,680.00	3,870,616.50	24
New York.....	12,080,429.73	.....	17,423.00	92,249,238.00	15,89
Philadelphia.....	1,867,728.99	40,000	14,671.00	2,889,301.00	1,29
Boston.....	793,393.00	.....	52,642.00	8,680,051.00	1,24
Cincinnati.....	2,217,288.13	50,000	9,145.00	7,405,000.00	46
Chicago.....	383,506.00	.....	15,615.00	580,000.00	1,97
Saint Louis.....	714,680.00	.....	4,880.00	6,430,400.00	60
New Orleans.....	825,294.72	.....	1,155.00	5,296,786.50	1,38
San Francisco.....	591,990.00	.....	.....	26,610,663.50	1
<i>United States mint:</i>					
Philadelphia.....	50,000.00	.....	.....	.....	.....
Coin.....	.....	.....	.....	1,693,242.00	.....
Bullion.....	.....	.....	.....	25,222,193.23	.....
<i>New Orleans:</i>					
Coin.....	.....	.....	.....	10,920.00	.....
Bullion.....	.....	.....	.....	590,959.62	.....
<i>San Francisco:</i>					
Coin.....	.....	.....	.....	1,156,705.00	.....
Bullion.....	.....	.....	.....	5,430,768.07	.....
<i>Carson City:</i>					
Coin.....	.....	.....	.....	83,005.00	.....
Bullion.....	.....	.....	.....	152,862.49	.....
Denver.....	53.00	.....	.....	.....	.....
Bullion.....	.....	.....	.....	96,366.51	.....
<i>United States assay office:</i>					
<i>New York:</i>					
Coin.....	.....	.....	.....	7,470.00	.....
Bullion.....	.....	.....	.....	76,916,059.11	.....
<i>Boise City:</i>					
Bullion.....	11,611.03	.....	.....	95,975.34	.....
<i>Charlotte:</i>					
Bullion.....	.....	.....	.....	8,158.50	.....
<i>Helena:</i>					
Bullion.....	.....	.....	.....	178,494.93	.....
<i>Saint Louis:</i>					
Coin.....	10.00	.....	.....	40.00	.....
Bullion.....	.....	.....	.....	4,444.71	.....
In transit between offices.....	1,130,282.16	.....	104,000.00	500,000.00	606
Total.....	25,516,651.82	150,000	2,991,433.52	291,226,110.31	28,94
Less amount due depositors.....	576,535.20	.....	.....	.....	.....
	24,940,116.62	150,000	2,991,433.52	291,226,110.31	28,94
Less bullion in remittance.....	.....	.....	.....	75,296.50	.....
	24,940,116.62	150,000	2,991,433.52	291,150,813.81	28,94
Deposits held by national-bank depositaries.....	.....	.....	.....	.....	.....
Old depositary accounts.....	.....	.....	.....	.....	.....
Total.....	*24,940,116.62	150,000	†2,991,433.52	291,150,813.81	28,94

NOTE.—No bullion is held in the sub-treasuries.

* U. S. notes, \$24,939,644.13; fractional currency, \$452.49.

† Includes \$2,764,222.52 national-bank notes in process of redemption.

REPORT OF THE SECRETARY OF THE TREASURY.

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OF THE ASSETS OF THE TREASURY, SEPTEMBER 30, 1897.

Standard silver dollars and silver bullion.	Silver certificates.	Fractional silver coin.	Minor coin.	United States bonds, interest checks, and coupons paid.	Unavailable funds.	Total.
\$61,380,588.00	\$1,641,202	\$1,008,536.77	\$2,000.42	\$1,975,167.31		\$102,450,044.38
3,183,910.00	97,047	323,457.75	1,214.04	60,610.62		9,358,306.51
21,267,178.00	211,213	9,602,398.82	2,568.50	3,243,908.01	\$13,818.78	165,782,785.84
12,660,006.00	187,927	2,086,493.88	601.37	242,289.71		21,282,638.95
1,403,803.00	55,620	739,778.30	4,453.87	493,374.50		13,465,445.73
219,200.00	117,046	88,200.00	509.72	59,865.13		10,635,503.98
1,342,082.00	288,869	1,266,648.00	410.96	62,721.55		5,914,858.51
3,613,393.00	170,830	1,318,905.00	600.93	26,951.99		19,089,793.92
4,293,883.00	279,615	268,457.01	2,869.35	15,202.00	\$60,891.53	13,049,214.11
18,656,172.00		7,058,992.00	2,686.49			52,328,813.99
		8,070.01	87,652.60			145,728.61
37,688,291.00						39,381,533.00
5,516,531.37						30,738,724.60
8,151,925.00		.43				8,162,845.43
1,293,936.03		45,992.69			413,557.00	1,884,885.65
23,873,628.00						459,550.65
1,072,332.37		829.63				25,030,331.00
9,320.00						8,603,100.44
40,540.37						820.03
		.20	.01			42,825.00
						193,402.86
		82.60	20.53			53.21
2,895.00						96,366.51
1,634,040.35						103.13
						10,305.00
						80,550,099.46
						11,611.03
						95,975.34
						8,158.50
						178,494.93
		2.00	.07			12.07
41.49						40.00
382.00	411,060	50,000.80	3,686.00	983,821.18		4,486.20
225,064,761.98	3,460,359	24,966,851.89	108,844.46	7,169,981.06	1,108,268.27	3,792,172.14
82,560.00	25,000	37,488.35				610,648,600.31
214,922,201.98	3,435,359	24,929,363.54	108,844.46	7,169,981.06	1,108,268.27	721,583.55
2,589.49						639,927,016.76
24,919,612.49	3,435,359	24,929,363.54	108,844.46	7,169,981.06		77,885.99
					214,761.38	669,849,130.77
					63,652.20	125,865,761.66
						63,652.20
\$24,919,612.49	3,435,359	24,929,363.54	108,844.46	7,169,981.06	1,386,081.85	635,778,544.63

Includes unavailable \$214,761.38.

\$ Silver bullion, \$11,551,822.49; trade-dollars, \$295,533; standard dollars, \$213,069,257.

A comparison of the assets and liabilities, as here given, with the published monthly statements for the same dates, will show many differences, which are due to the fact that the monthly statements are prepared on the day for which they are issued, from the latest data then on hand, while the statements here given are made up from reports exhibiting the condition of the several offices of the Treasury on the same day. The following is a table of the corrections that must be applied to the monthly statement for September 30, 1887, in order to reconcile it with the actual assets and liabilities at that date:

			Balances.	
			Decrease.	Increase.
Gold coin and bullion increased.....		\$448, 184. 11		
Gold certificates actually outstanding increased.....		208, 950. 00		
Gold balance increased.....				\$239, 234. 11
Silver dollars and bullion decreased.....		130, 092. 15		
Silver certificates actually outstanding increased.....		484, 482. 00		
Silver balance decreased.....			\$814, 574. 15	
United States notes increased.....		794, 451. 96		
Currency certificates actually outstanding increased.....		80, 000. 00		
United States note balance increased.....				714, 451. 96
Trade dollars.....			2, 820. 00	
Trade-dollar bullion.....				2, 820. 00
National-bank notes.....				52, 841. 00
Deposits in depositary banks.....				212, 309. 83
Total.....			617, 394. 15	1, 221, 716. 90
				617, 394. 15
Net increase in balances.....				604, 322. 75
Public debt and interest:				
Increase in liabilities.....	\$0. 50			
Increase in paid items.....		367, 570. 74		
Post-Office Department account increased.....	10, 517. 42			
Disbursing officers' balances increased.....	115, 651. 98			
Redemption and exchange account decreased.....		6, 702. 00		
Treasurer's checks and drafts outstanding decreased.....		658, 525. 80		
	126, 169. 90	1, 032, 798. 54		906, 628. 64
				1, 510, 951. 39
Fractional silver coin decreased.....	54, 855. 63			
Minor coin decreased.....	1, 766. 37			56, 622. 00
				1, 454, 329. 39

The following is a comparative statement of the assets and liabilities of the Treasury, exclusive of certificates and other obligations held as cash, on October 31, 1886, and October 31, 1887, compiled from the latest returns received:

	October 31, 1886.	October 31, 1887.	Increase.	Decrease.
ASSETS.				
Gold coin	\$187,168,509.40	\$182,342,103.00		
Gold bullion	59,663,630.00	120,202,502.45		
Total	246,832,148.40	302,544,605.45		
Less certificates actually outstanding	88,294,989.00	99,684,773.00		
Gold balance	158,537,159.40	202,859,832.45	\$44,322,653.05	
Standard silver dollars	182,931,231.00	214,175,532.00		
Silver bullion	3,807,048.52	11,683,032.19		
Total	186,739,179.52	225,858,564.19		
Less certificates actually outstanding	100,306,600.00	160,713,957.00		
Silver balance	86,432,579.52	65,144,607.19		\$21,287,772.33
United States notes	38,107,305.27	22,476,066.74		
Less certificates actually outstanding	7,140,000.00	7,215,000.00		
United States note balance	30,967,305.27	15,261,066.74		15,706,238.53
National bank notes	3,192,745.73	4,157,980.49	965,234.76	
Deposits in national bank depositaries	16,266,639.08	31,767,478.23	15,500,839.15	
Total net assets	295,396,249.00	319,190,965.10	23,794,716.10	
LIABILITIES.				
Matured debt and interest	12,548,927.49	3,641,570.73		8,907,356.76
Interest due and unpaid	2,322,743.86	1,937,758.92		384,984.94
Accrued interest	5,126,268.25	3,810,900.97		1,309,367.28
Interest due and unpaid, Pacific Railroad bonds	34,679.96	12,839.96		21,840.00
Accrued interest, Pacific Railroad bonds	1,292,470.24	1,292,470.24		
Reserve for redemption of United States notes	100,000,000.00	100,000,000.00		
Disbursing officers' balances, &c.	22,639,290.37	31,042,700.27	8,403,409.90	
Outstanding drafts and checks	5,601,057.68	5,614,378.70	13,321.02	
Five per cent. fund for redemption of national bank notes	10,424,631.04	7,892,939.97		2,531,691.07
Fund for redemption of notes of banks "failed," "in liquidation," and "reducing circulation"	78,105,363.60	102,781,550.25	24,676,186.65	
Post-Office Department account	4,517,610.53	4,399,141.20		118,469.27
Total liabilities	242,613,049.02	262,432,260.27	19,819,211.25	
Available balance	52,783,199.98	56,758,704.83	3,975,504.85	
Assets not available:				
Minor coin	235,421.45	51,400.61		184,020.84
Fractional silver coin	26,300,335.88	24,468,135.17		1,832,200.71
Total balance	79,318,957.31	81,278,240.61	1,959,283.30	

* Includes national bank notes in process of redemption.

MINTS AND ASSAY OFFICES.

The assets and liabilities of the several mints and assay offices on June 30, 1887, will be found in the following table, which is compiled from the records of the Mint Bureau and of this office:

STATEMENT SHOWING THE ASSETS AND LIABILITIES OF UNITED STATES MINTS AND ASSAY OFFICES JUNE 30, 1887.

ASSETS.

Office.	GOLD BULLION.		SILVER BULLION.		Gold coin.	Silver coin.	Minor coin.	Minor coinage metal.	Value of bullion shipped for coinage.	Old deficiencies brought forward.	Total.
	Standard weight.	Value.	Standard weight.	Value (cost).							
United States mint:	Ounces.		Ounces.								
Philadelphia	1,286,515.093	\$25,935,164.35	4,398,641.88	\$1,400,276.95	\$3,675,083.00	\$38,570,322.89	\$101,868.60	\$14,809.19			\$68,767,224.38
San Francisco	94,403.183	1,756,375.50	817,692.74	859,170.18	3,342,285.00	18,643,473.38				\$413,357.96	25,216,534.52
New Orleans	31,431.680	584,775.40	1,538,213.68	1,367,986.85	5,020.00	8,511,744.80					10,469,526.55
Carson City	5,638.514	104,908.74	44,643.38	40,627.66	71,007.00	10,692.00					227,235.40
Assay office:											
New York	3,175,217.401	59,073,811.75	3,326,463.09	3,726,612.35	4,664,229.82	65,338.44					67,520,992.46
Denver					113,933.00						113,933.38
Helena	1,928.421	30,286.22	303.17	265.51	52,983.00	67					82,757.40
Boise City	1,358.568	25,774.36	774.80	674.08	105,325.00	77					143,285.18
Charlotte					12,400.00	84				11,611.03	22,840.06
Saint Louis	62.576	1,104.17	42.90	37.33	19,326.00	80					20,528.36
Charlotte										32,000.00	32,000.00
Dallonega										27,950.00	27,950.03
Total	4,599,284.560	85,512,270.43	13,136,176.88	10,455,680.31	12,072,113.92	64,011,685.91	\$101,868.60	\$14,809.19		\$45,112,021.72	653,607.28

LIABILITIES.

Office.	Bullion fund.	Undeposited earnings.	Seignorage on silver.	Unpaid depositors.	Minor coin profits.	Minor coin metal fund.	Unpaid cent depositors.	Total.
United States mint:								
Philadelphia	\$68,552,812.57		\$93,286.27	\$2,357.45	\$63,607.79	\$50,000.00	\$70.00	\$68,767,224.38
San Francisco	25,146,175.43	\$26,301.32	41,831.09	2,025.28				25,216,534.02
New Orleans	10,455,925.07		13,527.69	73.79				10,469,526.55
Carson City	226,060.00	1,235.46						227,235.40
Assay office:								
New York	67,509,513.12	19,085.50		1,383.75				67,520,992.46
Denver	113,933.38							113,933.38
Helena	82,682.51	74.89						82,757.40
Boise City	143,216.43	68.75						143,285.18
Charlotte	22,810.06							22,840.06
Saint Louis	20,514.88	13.48						20,528.36
Charlotte	32,000.00							32,000.00
Dallonega	27,950.03							27,950.03
Total	172,333,563.78	46,770.49	150,645.93	\$,850.27	66,607.79	50,000.00	70.00	172,633,607.28

Total account.

* Incurred prior to the organization of the Mint Bureau.

REPORT OF THE SECRETARY OF THE TREASURY.

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DEFICITS, UNAVAILABLE FUNDS.

The following table contains a detailed statement of unavailable funds, deficits, and defaults, and shows an increase over last year of \$200, arising from the repayment of money erroneously applied to reduce the amount of indebtedness caused by the failure of the Venango National Bank of Franklin, Pa.:

UNAVAILABLE FUNDS OF THE GENERAL TREASURY AND OF THE POST-OFFICE DEPARTMENT.

GENERAL TREASURY.

On deposit with the following States under the act of June 23, 1836:

Maine.....	\$955,838.25
New Hampshire.....	669,086.79
Vermont.....	669,086.79
Massachusetts.....	1,378,173.58
Connecticut.....	704,670.60
Rhode Island.....	382,323.30
New York.....	4,014,320.71
Pennsylvania.....	2,867,514.78
New Jersey.....	764,670.60
Ohio.....	2,007,260.34
Indiana.....	869,254.44
Illinois.....	477,919.14
Michigan.....	280,751.40
Delaware.....	280,751.49
Maryland.....	955,838.25
Virginia.....	2,108,427.90
North Carolina.....	1,433,757.30
South Carolina.....	1,051,422.09
Georgia.....	1,051,422.09
Alabama.....	609,086.79
Louisiana.....	477,919.14
Mississippi.....	382,323.30
Tennessee.....	1,433,757.30
Kentucky.....	1,433,757.30
Missouri.....	382,323.30
Arkansas.....	280,751.40

Total on deposit with the States.....\$28,101,644.91

Default, sub-treasury U. S., New Orleans, La., 1867, May & Whitaker.....	675,325.22	
Sub-treasury U. S., New Orleans, La., 1867, May property.....	5,566.31	
Deficit, sub-treasury U. S., New York, N. Y., 1867, counterfeit 7.30's.....	4,392.91	
Sub-treasury U. S., New York, N. Y., 1867 to 1880.....	9,425.87	\$694,710.31
Deficits and defaults, branch mint U. S., San Francisco, Cal., 1857 to 1869.....		413,557.90
Failure, Venango National Bank of Franklin, Pa.....	181,377.51	
First National Bank of Selma, Ala.....	33,383.87	214,761.38
Default, branch mint U. S., Dahlonega, Ga., 1861.....	27,950.03	
Branch mint U. S., Charlotte, N. C., 1861.....	32,000.00	
Depository U. S., Galveston, Tex., 1861.....	778.66	
Depository U. S., Baltimore, Md., 1866.....	517.50	
Depository U. S., Pittsburgh, Pa., 1867.....	2,120.11	
Deficit, depository U. S., Santa Fé, N. Mex., 1866, short in remittance.....	249.90	
		63,652.20
Deficit, sub-treasury U. S., New Orleans, La., 1885.....	21,641.56	1,380,081.85
Default, U. S. assay office, Boise City, Idaho, 1885 (N. H. Camp's account).....	11,611.03	
		33,252.59
Total general Treasury.....		1,419,034.44
		20,821,579.35

POST-OFFICE DEPARTMENT.

Default, sub-treasury U. S., New Orleans, La., 1861.....	31,164.44	
Depository U. S., Savannah, Ga., 1861.....	205.76	
Depository U. S., Galveston, Tex., 1861.....	83.36	
Depository U. S., Little Rock, Ark., 1861.....	5,823.50	
		37,277.06
Total.....		20,558,856.41

UNITED STATES NOTES.

The following table is given in order that comparison may be made of the amount of United States notes of each denomination outstanding at the end of each of the last four fiscal years and on September 30, 1887:

Denomination.	1884.	1885.	1886.	1887.	Sept. 30, 1887.
One dollar.....	\$26,660,144.80	\$24,953,061.80	\$17,603,922.40	\$8,797,376.50	\$7,607,871.10
Two dollars.....	24,897,886.20	25,295,089.20	18,204,369.60	9,008,572.00	7,744,823.40
Five dollars.....	75,552,915.00	75,997,805.00	85,629,219.00	95,064,850.50	94,224,182.50
Ten dollars.....	69,527,016.00	64,539,386.00	60,638,661.00	80,371,471.00	83,269,839.00
Twenty dollars.....	58,054,629.00	55,126,509.00	55,078,379.00	63,929,361.00	64,792,345.00
Fifty dollars.....	23,208,895.00	23,459,895.00	23,291,265.00	21,008,985.00	21,295,455.00
One hundred dollars..	33,640,990.00	32,806,790.00	31,359,700.00	29,613,400.00	29,743,009.00
Five hundred dollars..	16,914,000.00	16,557,000.00	12,424,000.00	7,704,500.00	7,484,000.00
One thousand dollars..	19,034,500.00	28,710,500.00	37,361,500.00	31,107,500.00	27,402,500.00
Five thousand dollars..	130,000.00	100,000.00	60,000.00	45,000.00	45,000.00
Ten thousand dollars..	60,000.00	40,000.00	10,000.00	10,000.00	10,000.00
Total.....	347,681,016.00	347,681,016.00	347,681,016.00	347,681,016.00	347,681,016.00
Less unknown denom- inations destroyed in sub-treasury in Chicago fire.....	1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00
Outstanding....	346,681,016.00	346,681,016.00	346,681,016.00	346,681,016.00	346,681,016.00

The redemption of United States notes in gold coin during the fiscal year by the assistant treasurer of the United States in New York, under the act of January 14, 1875, amounted to \$4,224,073. The act of March 3, 1887, extends the authority to redeem these notes in gold coin to San Francisco; but no notes were redeemed in that city to June 30. The total redemptions to the latter date amount to \$26,043,858.

There has been a constant demand upon the Treasury, which this office has been unable to supply, for paper currency of the denominations of \$20 and under. Several million dollars of small gold coins have been drawn into circulation to meet this want.

The following table shows the paper currency and silver coin shipped during the fifteen months ending September 30, 1887:

United States notes:		
Five dollars.....	\$27,571,460	
Ten dollars.....	25,095,280	
Twenty dollars.....	16,003,820	
Fifty dollars.....	1,320,900	
One hundred dollars.....	774,300	
		\$70,765,760.00
Various denominations and kinds.....		748,240.00
Silver certificates:		
One dollar.....	16,313,886	
Two dollars.....	9,856,503	
Five dollars.....	11,602,540	
Ten dollars.....	16,198,010	
Twenty dollars.....	10,637,440	
Fifty dollars.....	700,000	
		65,408,979.00
Standard silver dollars:		
Payments during same period, \$37,333,604.83; increase of outstanding.....		7,826,641.00
Fractional silver coin:		
Payments during same period, \$10,411,503.14; increase of outstanding.....		4,526,075.49
Total.....		149,275,695.49

The following table shows the amount of each denomination of United States notes issued and redeemed, and the increase or decrease in circulation during the last three fiscal years, and July, August, and September of the present year, and is given in continuance of the information furnished last year, for the purpose of showing the changes which have taken place in the various denominations:

CHANGES IN DENOMINATIONS OF UNITED STATES NOTES IN CIRCULATION.

Denomination.	1883.				1886.				1887.			
	Issued.	Redeemed.	Decrease in circulation.	Increase in circulation.	Issued.	Redeemed.	Decrease in circulation.	Increase in circulation.	Issued.	Redeemed.	Decrease in circulation.	Increase in circulation.
One dollar.....	\$10,187,153	\$11,895,275	\$1,708,123	\$397,183	.....	\$7,318,139	\$7,348,139	.....	.....	\$8,800,546	\$8,800,546	.....
Two dollars.....	10,856,000	10,438,817	417,183	.....	.....	7,090,700	7,090,700	.....	.....	9,193,798	9,193,798	.....
Five dollars.....	10,300,000	18,865,110	444,800	.....	.....	17,885,859	.....	.....	.....	17,391,308	.....	.....
Ten dollars.....	9,646,000	14,627,680	4,987,680	.....	.....	7,900,000	.....	.....	.....	22,240,000	.....	.....
Twenty dollars.....	9,760,000	12,688,120	2,928,120	.....	.....	7,128,000	.....	.....	.....	16,240,000	.....	.....
Fifty dollars.....	4,540,000	4,540,000	.....	231,000	.....	2,168,139	148,139	.....	.....	4,298,248	1,382,500	.....
One hundred dollars.....	8,800,000	9,844,200	544,200	.....	.....	6,498,000	1,876,630	.....	.....	4,576,500	4,716,500	.....
Five hundred dollars.....	2,830,000	2,707,000	357,000	.....	.....	6,883,000	1,557,000	.....	.....	4,19,500	4,745,000	.....
One thousand dollars.....	12,600,000	2,318,000	30,000	14,682,000	.....	8,485,000	4,135,000	.....	.....	9,812,000	6,194,000	.....
Five thousand dollars.....	.....	20,000	20,000	.....	.....	30,000	30,000	.....	.....	15,000	15,000	.....
Ten thousand dollars.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total.....	84,403,153	84,493,153	10,775,073	10,775,073	63,000,000	63,000,000	20,395,680	20,395,680	74,068,000	74,068,000	31,929,424	31,929,424

Denomination.	July, 1887.				August, 1887.				September, 1887.			
	Issued.	Redeemed.	Decrease in circulation.	Increase in circulation.	Issued.	Redeemed.	Decrease in circulation.	Increase in circulation.	Issued.	Redeemed.	Decrease in circulation.	Increase in circulation.
One dollar.....	\$400,400	445,250	\$400,400	.....	.....	\$388,015	\$388,015	.....	.....	\$341,030	\$341,030	.....
Two dollars.....	1,350,800	1,350,800	270,800	.....	.....	413,129	413,129	.....	.....	373,370	373,370	.....
Five dollars.....	1,040,000	685,500	.....	\$354,500	.....	1,460,868	300,868	.....	.....	1,369,000	260,000	.....
Ten dollars.....	2,800,000	479,000	.....	2,321,000	.....	753,923	.....	.....	.....	702,210	.....	.....
Twenty dollars.....	800,000	154,250	154,250	.....	.....	520,000	.....	.....	.....	507,950	.....	.....
Fifty dollars.....	175,800	175,800	.....	636,200	.....	237,000	237,000	.....	.....	221,380	221,380	.....
One hundred dollars.....	45,000	45,000	45,000	.....	.....	275,000	74,500	.....	.....	251,000	251,000	.....
Five hundred dollars.....	352,000	2,340,000	1,988,000	.....	.....	74,500	74,500	.....	.....	101,000	101,000	.....
One thousand dollars.....	.....	.....	.....	.....	.....	774,000	774,000	.....	.....	1,033,000	1,033,000	.....
Ten thousand dollars.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total.....	6,072,000	6,072,000	3,303,700	3,303,700	4,900,000	4,900,000	2,494,012	2,494,012	4,900,000	4,900,000	2,580,840	2,580,840

CERTIFICATES OF DEPOSIT, ACT OF JUNE 8, 1872.

During the fiscal year there were issued, under the provisions of the act of June 8, 1872, upon deposits of United States notes received from national banks, certificates amounting to \$34,900,000. There were redeemed \$43,990,000, leaving outstanding at the close of the year \$9,020,000, which is a much smaller amount than has been outstanding at the close of any year since the commencement of the issue. Their limited use may be attributed to the change in bank reserves from notes to gold coin, and also to the great demand for notes caused by the increased business activity. The amount outstanding September 30, 1887, was \$6,615,000.

The total issues and redemptions each year, and the amount outstanding at the close of the years from the date of the first issue, are shown in the following table. The amounts outstanding differ from those shown by the public debt statements, for the reason that the reports of issues and redemptions of the last days of the fiscal year at the several offices do not reach the Department until after the statements of the debt are made up.

Fiscal year.	Total issued.	Total re-deemed.	Outstanding at close of fiscal year.
1873.....	\$37,240,000	\$25,430,000	\$31,810,000
1874.....	137,905,000	78,915,000	58,990,000
1875.....	219,000,000	159,955,000	59,045,000
1876.....	301,400,000	268,200,000	33,140,000
1877.....	378,285,000	324,305,000	53,980,000
1878.....	464,965,000	418,720,000	46,245,000
1879.....	554,730,000	525,400,000	29,330,000
1880.....	601,785,000	588,660,000	13,125,000
1881.....	612,850,000	601,235,000	11,615,000
1882.....	629,760,000	616,400,000	13,360,000
1883.....	649,790,000	636,610,000	13,180,000
1884.....	676,600,000	661,430,000	15,170,000
1885.....	733,215,000	703,930,000	29,285,000
1886.....	780,865,000	763,755,000	17,110,000
1887.....	815,705,000	806,745,000	9,020,000

GOLD CERTIFICATES.

Of the issue of gold certificates under the act of March 3, 1863, there were redeemed during the fiscal year \$51,720, reducing the amount outstanding to \$2,375,700. The certificates authorized by the act of July 12, 1882, outstanding at the close of the year, amounted to \$119,111,117. There were held in the cash of the Treasury offices \$30,261,380 of both issues, leaving \$91,225,437 actually in circulation, an increase of \$15,181,062 in the year. The amount held in the Treasury cash decreased \$24,868,490 in the year.

The certificates actually in circulation on October 31, 1887, increased to \$99,634,773, and those held in the cash at the same time amounted to \$32,858,158.

The following table shows the issues and redemptions by denominations and the amounts outstanding at the beginning and close of the fiscal year:

Denomination.	Outstanding June 30, 1886.	Issued.		Redeemed.		Outstanding June 30, 1887.
		During fiscal year.	To June 30, 1887.	During fiscal year.	To June 30, 1887.	
Twenty dollars	\$11, 376, 890	.....	\$16, 880, 000. 00	\$1, 104, 828	\$6, 007, 938. 00	\$10, 872, 062
Fifty dollars	9, 717, 935	.....	13, 300, 000. 00	1, 492, 600	5, 074, 645. 00	8, 225, 355
One hundred dollars ..	9, 013, 400	.....	32, 434, 300. 00	1, 056, 000	24, 476, 900. 00	7, 957, 400
Five hundred dollars ..	13, 440, 000	.....	50, 144, 000. 00	1, 409, 000	34, 113, 000. 00	12, 031, 000
One thousand dollars ..	18, 496, 000	.....	147, 881, 000. 00	1, 120, 000	130, 505, 000. 00	17, 376, 000
Five thousand dollars ..	13, 820, 000	.....	480, 385, 000. 00	625, 000	467, 190, 000. 00	13, 195, 000
Ten thousand dollars ..	54, 710, 000	.....	309, 330, 000. 00	2, 880, 000	347, 500, 000. 00	51, 830, 000
Amount Geneva award .....	.....	.....	33, 000, 580. 46	.....	33, 000, 580. 46	.....
Total	131, 174, 245	.....	1, 173, 354, 880. 46	9, 687, 428	1, 051, 868, 003. 46	121, 486, 817.

The amount of gold certificates issued and redeemed during each fiscal year from 1866 to 1887, the total amount issued and redeemed, and the amount outstanding at the close of each year, will be found in the following table:

Period.	Issued during fiscal year.	Total issued.	Redeemed during fiscal year.	Total redeemed.	Outstanding at close of fiscal year.
From November 11, 1865, to June 30, 1866	\$98, 493, 660. 00	\$98, 493, 660. 00	\$87, 545, 800. 00	\$87, 545, 800. 00	\$10, 947, 860. 00
Fiscal year 1867 ..	109, 121, 620. 00	207, 615, 280. 00	101, 295, 900. 00	188, 841, 700. 00	18, 773, 580. 00
1868 ..	77, 960, 400. 00	585, 575, 680. 00	79, 055, 340. 00	267, 897, 040. 00	17, 678, 640. 00
1869 ..	80, 663, 160. 00	366, 238, 840. 00	65, 255, 620. 00	333, 152, 660. 00	33, 086, 180. 00
1870 ..	76, 731, 060. 00	442, 969, 900. 00	75, 270, 120. 00	408, 422, 780. 00	34, 547, 120. 00
1871 ..	56, 577, 000. 00	499, 546, 900. 00	71, 237, 820. 00	479, 660, 000. 00	19, 886, 900. 00
1872 ..	63, 229, 500. 00	562, 776, 400. 00	51, 029, 500. 00	530, 690, 100. 00	32, 086, 300. 00
1873 ..	55, 570, 500. 00	618, 346, 900. 00	48, 106, 800. 00	578, 886, 900. 00	39, 460, 000. 00
1874 ..	81, 117, 780. 46	699, 464, 680. 46	97, 752, 680. 46	676, 639, 580. 46	22, 825, 100. 00
1875 ..	70, 250, 100. 00	769, 714, 780. 46	71, 278, 900. 00	747, 918, 480. 46	21, 796, 300. 00
1876 ..	90, 619, 100. 00	860, 333, 880. 46	83, 734, 000. 00	831, 652, 480. 46	28, 681, 400. 00
1877 ..	58, 141, 200. 00	918, 475, 080. 46	45, 250, 000. 00	876, 902, 480. 46	41, 572, 600. 00
1878 ..	50, 342, 400. 00	968, 817, 480. 46	47, 518, 000. 00	924, 450, 480. 46	44, 367, 000. 00
1879 ..	12, 317, 400. 00	981, 134, 880. 46	41, 270, 700. 00	965, 721, 180. 46	15, 413, 700. 00
1880 ..	.....	981, 134, 880. 46	7, 409, 100. 00	973, 130, 280. 46	8, 004, 600. 00
1881 ..	.....	981, 134, 880. 46	2, 281, 680. 00	975, 351, 960. 46	5, 782, 920. 00
1882 ..	.....	981, 134, 880. 46	745, 800. 00	976, 097, 760. 46	5, 017, 120. 00
1883 ..	88, 710, 000. 00	1, 067, 844, 880. 46	9, 368, 480. 00	985, 466, 240. 46	83, 378, 640. 00
1884 ..	41, 470, 000. 00	1, 109, 314, 880. 46	25, 455, 980. 00	1, 010, 922, 220. 46	98, 392, 660. 00
1885 ..	63, 090, 000. 00	1, 172, 314, 880. 46	21, 069, 520. 00	1, 031, 991, 740. 46	140, 323, 140. 00
1886 ..	1, 040, 660. 00	1, 173, 354, 880. 46	10, 188, 895. 00	1, 042, 180, 635. 46	131, 174, 245. 00
1887 ..	.....	1, 173, 354, 880. 46	9, 687, 428. 00	1, 051, 868, 003. 46	121, 486, 817. 00

SILVER CERTIFICATES.

There was a large increase in silver certificates outstanding, the amount at the close of the fiscal year being \$145,543,150, as compared with \$115,977,675, June 30, 1886. The amount held in the Treasury cash at the close of the fiscal year was \$3,425,133; the amount held at the same time in 1886 was \$27,861,450; and the amount in actual circulation June 30, 1887, was \$142,118,017, against \$88,116,225 last year. The increase of \$54,001,792 in circulation was partly due to the demand for notes of small denominations caused by the discontinuance of the issue of \$1 and \$2 legal-tender notes. Under the requirements of the act of August 4, 1886, which directs the issue of silver certificates in denominations of \$1, \$2, and \$5, there were issued during the fiscal year

\$14,156,000 in ones, \$8,976,000 in twos, and \$7,760,000 in fives. Their issue has, to a considerable extent, satisfied the want for a small paper currency, and has therefore proved of great public convenience.

The Treasurer has been only partially able to meet the demand for these small certificates, for the reason that they have not been furnished to him. It is very desirable that a liberal supply should be printed and available for the regular demands on the office at certain seasons. It is the experience of the Department that paper money put into circulation freshly printed, as much of that lately issued has been, will not wear so well nor last so long as when seasoned by remaining a reasonable time in the vaults. It has been necessary to put the notes into circulation as rapidly as they could be prepared, and many complaints have been received in regard to their easy defacement, which is undoubtedly attributable to their being put into use fresh from the presses.

The issues and redemptions of these certificates by denominations during the last fiscal year are shown by the following table:

Denomination.	Outstanding June 30, 1886.	Issued.		Redeemed.		Outstanding June 30, 1887.
		During fiscal year.	To June 30, 1887.	During fiscal year.	To June 30, 1887.	
One dollar		\$14,156,000	\$14,156,000	\$176,503.90	\$176,503.90	\$13,979,496.10
Two dollars		8,976,000	8,976,000	70,003.60	70,003.60	8,905,996.40
Five dollars		7,760,000	7,760,000	31,758.50	31,758.50	7,728,241.50
Ten dollars	\$50,209,387	10,440,000	92,274,000	6,508,517.00	38,073,130.00	54,200,870.00
Twenty dollars	44,057,628	9,529,000	83,506,000	3,818,612.00	32,876,984.00	50,629,016.00
Fifty dollars	7,284,840	1,000,000	12,050,000	3,188,740.00	0,853,900.00	5,196,100.00
One hundred dollars	9,610,820		14,140,000	5,897,300.00	10,426,570.00	3,712,430.00
Five hundred dollars	1,835,000		13,650,000	1,166,000.00	12,981,000.00	600,000.00
One thousand dollars	1,920,000		23,490,000	1,390,000.00	22,900,000.00	521,000.00
Total	115,977,675	51,852,000	270,002,000	22,286,525.00	124,458,850.00	145,543,150.00

The amount of silver certificates issued and redeemed during each fiscal year from 1878 to 1887, the total amount issued and redeemed, and the amount outstanding at the close of each year, are exhibited in the following statement:

Fiscal year.	Issued during fiscal year.	Total issued.	Redeemed during fiscal year.	Total re- deemed.	Outstanding at close of fiscal year.
1878	\$1,850,410	\$1,850,410			\$1,850,410
1879	9,149,590	11,000,000	\$8,400,050	\$8,400,050	2,539,950
1880	10,018,000	21,018,000	183,680	8,643,730	12,374,270
1881	40,912,000	61,930,000	2,119,740	10,763,470	51,166,530
1882	24,300,000	86,230,000	9,369,820	20,133,290	66,096,710
1883	35,040,000	121,270,000	12,519,879	32,653,169	88,616,831
1884	52,280,000	173,550,000	20,005,140	52,658,309	120,891,691
1885	40,000,000	213,550,000	20,900,045	73,648,354	139,901,646
1886	4,600,000	218,150,000	28,523,971	102,172,325	115,977,675
1887	51,852,000	270,002,000	22,286,525	124,458,850	145,543,150

TRADE DOLLARS.

Under authority of the act of March 3, 1887, trade dollars amounting to \$7,689,036 have been received in exchange for standard dollars and fractional silver coin. The authority to exchange these coins under the above law expired, September 3, 1887, since which date but few applications for redemption have been received. It is believed that very few remain in the country which are not held as specimen pieces by collectors of coins.

There were presented at the Treasury and sub-treasuries quite a large number of pieces which were defaced, mutilated, or stamped, and therefore not exchangeable under the law. Holders of such coins were advised to present them at the mints, where they were purchased at their bullion value.

Of the total amount exchanged \$6,961,036 was held by the mints, October 31, 1887, as trade-dollar bullion, \$728,000 having been recoined into dimes.

The following statement shows the amount exchanged by the Treasury and by each of the sub-treasury offices :

Office.	Amount.
Treasurer United States, Washington	\$52, 298
Assistant treasurer United States:	
Baltimore	446, 160
Boston	30, 098
Chicago	36, 080
Cincinnati	241, 150
New Orleans	1, 871
New York	3, 495, 538
Philadelphia	2, 595, 070
San Francisco	764, 263
Saint Louis	17, 515
Total	7, 689, 036

STANDARD SILVER DOLLARS.

The amount of standard silver dollars coined in the fiscal year was \$3,216,831, an increase of \$3,377,926 over 1886. The amount held in the Treasury June 30, 1887, was \$211,483,970, and the amount in circulation, \$55,456,147.

The amount held by the Treasury October 31, 1887, was \$214,175,532, and the amount in circulation, \$62,540,625. The present storage vault in this city was completed and turned over to the Treasurer in September, 1884. It now contains \$56,000,000 in standard silver dollars and \$25,000,000 in gold coin, and is entirely filled. The new vault in course of erection in the Treasury building is urgently needed to transfer the accumulations from overcrowded vaults in Treasury offices at other points.

The amount of silver dollars coined, on hand, distributed, and outstanding at the close of each fiscal year since the coinage was resumed, the percentage of the total coinage outstanding, and the percentage of the annual coinage distributed each year, will be found in the following table:

Fiscal year.	Annual coinage.	Total coinage.	On hand at close of year.	Net distribution during year.	Outstanding at close of year.	Percentage of annual coinage distributed.	Percentage of total coinage outstanding.
1878	\$8, 573, 500	\$8, 573, 500	\$7, 718, 857	\$855, 143	\$855, 143	9.9	9.9
1879	27, 227, 500	35, 801, 000	28, 358, 589	6, 587, 268	7, 442, 411	24.2	20.8
1880	27, 933, 750	63, 734, 750	45, 108, 296	11, 184, 043	18, 636, 454	40	29.2
1881	27, 637, 955	91, 372, 705	63, 249, 360	9, 496, 951	28, 123, 405	35.8	30.8
1882	27, 772, 075	119, 144, 780	87, 524, 182	3, 497, 193	31, 629, 598	12.6	26.5
1883	28, 111, 119	147, 255, 899	112, 362, 510	3, 272, 791	34, 893, 389	11.6	23.7
1884	28, 099, 930	175, 355, 829	135, 810, 368	4, 652, 072	39, 545, 461	16.5	22.6
1885	28, 528, 552	203, 884, 381	165, 535, 854	—1, 196, 934	38, 348, 527	-----	18.8
1886	29, 838, 905	233, 723, 286	181, 253, 566	14, 121, 193	52, 469, 720	47.3	22.4
1887	33, 216, 831	266, 940, 117	211, 483, 970	2, 986, 427	55, 456, 147	8.9	20.7

The following table shows the amount of standard silver dollars and of fractional silver coin in each office of the Treasury on September 30, 1887, and on that date last year:

Office.*	Standard silver dollars.		Fractional silver coin.	
	Sept. 30, 1886.	Sept. 30, 1887.	Sept. 30, 1886.	Sept. 30, 1887.
Treasurer United States, Washington	\$51,043,674	\$61,380,588	\$2,089,907.84	\$1,908,536.77
Assistant treasurer United States:				
Baltimore	3,070,791	3,183,910	403,299.25	323,457.75
Boston	251,358	1,403,893	822,004.10	739,778.30
Chicago	2,139,412	1,342,088	1,571,771.00	1,266,646.00
Cincinnati	50,500	219,200	49,740.00	88,200.00
New Orleans	1,272,023	4,293,883	537,023.80	268,457.61
New York	26,704,000	31,071,645	9,283,490.13	9,802,388.82
Philadelphia	10,436,534	12,660,006	2,894,909.13	2,068,493.88
San Francisco	22,941,297	18,056,172	7,350,100.59	7,058,092.00
Saint Louis	10,076,192	9,813,393	1,801,418.00	1,318,903.00
United States mint:				
Denver .....			.90	
Carson City		9,320		829.63
New Orleans	4,109,268	8,151,925	.78	.43
Philadelphia	30,771,052	37,688,291	18,508.27	8,076.01
San Francisco	18,597,167	23,873,626	4,030.87	45,992.00
United States assay office:				
Boise City				
Charlotte				
Helena				
New York	4,725	2,895	274.20	82.60
Saint Louis			20.50	2.00
Denver .....			.20	
Total	181,264,093	213,151,435	26,826,499.26	24,916,851.09
Add amount in transit between offices	531	382	55,000.80	50,000.80
Total	181,264,624	213,151,817	26,881,500.16	24,966,851.89
Less amount due depositors	103,463	82,590	34,887.40	37,488.35
Amount held as assets	181,161,161	213,069,227	26,846,612.76	24,929,363.54

FRACTIONAL SILVER COIN.

The Treasury held on June 30, 1887, \$26,977,493.79 in fractional silver coin, a decrease of \$1,927,187.87 from the amount held at the same date in 1886. The amount was further reduced by October 31, 1887, to \$24,468,135.17. In the appendix will be found tables showing the shipments from Treasury offices and mints, and also the amount held in the Treasury at the end of each month from May, 1879.

The following table shows the denominations and amounts of fractional silver coin held in each office of the Treasury on September 30, 1887:

Office.	Fifty cents.	Twenty-five cents.	Twenty cents.	Ten cents.	Five cents.	Three cents.	Unassorted.
Treasurer United States, Washington	\$1,543,395.00	\$349,926.50	\$0.80	\$5,389.80	\$102.05	\$37.77	\$9,678.63
Assistant treasurer United States:							
Baltimore	303,000.00	4,000.00	4.00	13,000.00	83.00	21.00	3,349.75
Boston	582,181.50	141,560.00	100.00	6,576.80	100.00		9,260.00
Chicago	943,000.00	300,000.00		19,000.00			4,648.00
Cincinnati	35,507.00	45,300.00	69.00	7,090.00	157.00	17.00	
New Orleans	230,018.00	31,815.25	7.40	6,034.70	10.00	2.16	569.50
New York	4,124,660.00	2,636,017.00		31,270.00			10,451.82
Philadelphia	1,237,123.00	821,030.00	3.00	16,895.00	336.00		11,106.88
San Francisco	6,948,119.00	81,338.00	115.00	28,673.00	742.50	4.50	
Saint Louis	1,202,990.00	104,250.00	28.60	0,000.00	171.00	1.20	5,374.20
United States mint:							
Carson City	440.50	240.50		133.63			
New Orleans .....							.43
Philadelphia	3,922.00	1,940.00		2,214.01			
San Francisco		1,016.75		44,911.98			63.00
United States assay office:							
New York	12.00			70.60			
Saint Louis							2.00
Denver .....							.20
In transit between offices		50,000.00					.80
Total	20,154,431.00	4,508,443.00	333.80	187,349.52	1,701.55	83.63	54,506.39

MINOR COIN.

From June 30, 1886, to October 31, 1887, the minor coins held by the Treasury decreased from \$377,814 to \$51,400.61. The amount of one and five cent pieces on hand at the present time is not more than sufficient to supply the needs of the various offices in making payments over their counters.

The following table shows the denominations and amounts held by each office of the Treasury, September 30, 1887:

Office.	Five cents.	Three cents.	Two cents.	One cent.	Unassorted.	Total.
Treasurer United States, Washington	\$605.00	\$816.00	-----	\$36.00	\$502.42	\$2,009.42
Assistant treasurer United States:						
Baltimore.....	500.00	180.00	\$30.00	504.64	-----	1,214.64
Boston.....	1,161.05	-----	-----	3,022.82	250.00	4,453.87
Chicago.....	350.00	-----	-----	60.00	.86	410.86
Cincinnati.....	346.00	83.00	20.00	50.00	.72	509.72
New Orleans.....	1,509.65	3.75	3.54	852.41	-----	2,369.35
New York.....	1,045.00	570.00	-----	510.00	443.50	2,568.50
Philadelphia.....	221.00	122.00	90.00	147.00	14.37	611.37
San Francisco.....	1,115.00	1,360.00	150.00	101.49	-----	2,686.49
Saint Louis.....	156.75	13.23	8.40	482.55	-----	660.98
United States mint:						
Denver.....	-----	-----	-----	-----	.01	.01
Philadelphia.....	63,448.00	8,415.35	3,219.00	6,900.25	5,670.00	87,652.60
United States assay office:						
New York.....	-----	-----	-----	-----	20.53	20.53
Saint Louis.....	-----	-----	-----	-----	.07	.07
In transit between offices.....	1,150.00	736.00	1,010.00	760.00	30.00	3,686.00
Total.....	71,627.45	12,216.33	4,530.94	13,537.16	6,932.58	108,844.46

RECOINAGE OF UNCURRENT COINS.

Under the provisions of the acts of August 4, 1886, and December 22, 1886, there were transferred to the mint, during the fiscal year, \$757,630.41 in silver coins and \$16,513.59 in gold coins to be recoined, and \$336,234.64 in minor coins to be recoined or cleaned. The net loss on the gold and silver was \$15,063.96. The following is a statement of the denominations of the silver coins transferred:

Denomination.	Amount.
Fifty cents.....	\$445,727.00
Twenty-five cents.....	30,592.25
Twenty cents.....	2,242.60
Ten cents.....	1,344.10
Five cents.....	13,278.25
Three cents.....	1,956.21
Mixed.....	248,196.00
Total fractional silver coin.....	749,336.41
One dollar.....	8,292.00
Total.....	757,630.41

MUTILATED, STOLEN, AND COUNTERFEIT CURRENCY.

There was deducted from the face value of United States notes redeemed during the fiscal year, on account of mutilations, \$7,266; from fractional currency, \$63.23; from silver certificates, \$943; from gold certificates, \$32; a total of \$8,304.23. There were also returned \$245 in notes of national banks which had been stolen and put into circulation without the signatures of the bank officers.

In counting and assorting remittances of money received for redemption, the counters of this office detected \$4,496 in counterfeit United States notes, \$2,924 in counterfeit national-bank notes, and \$214 in fractional currency, which, in compliance with law, were branded and returned to the parties from whom they were received. The number of counterfeit United States notes detected was 312, and of national-bank notes 242. The following statement shows the denominations:

Denomination.	United States notes.	National-bank notes.
One dollar	\$20	.....
Two dollars.....	76	654
Five dollars.....	420	590
Ten dollars.....	880	500
Twenty dollars.....	1,000	600
Fifty dollars.....	1,100	88
One hundred dollars.....	1,000	1,200
	4,496	2,924

The following statement shows the number of counterfeit silver coins detected in the receipts of the several Treasury offices during the fiscal year:

Description.	Amount received.	Number of counterfeits.
Standard dollars.....	\$44,537,167	4,298
Half dollars.....	7,162,723	921
Quarter dollars.....	5,766,520	1,236

FRACTIONAL CURRENCY.

The decrease in the amounts of fractional currency presented for redemption each year since 1877 is very marked. None has been issued since February 15, 1876. The total issue to that date was \$368,724,079.45. The amount outstanding at the close of the fiscal year, as appears by the Treasurer's books, was \$15,322,902.70. The amount estimated to have been lost or destroyed, as appears on the public debt statement, is \$8,375,934. It is manifest, from the evidence afforded by the yearly redemptions, that the loss or destruction of this currency is far greater than the estimate above referred to.

The following table gives the redemptions for each fiscal year since 1877:

Fiscal year.	Amount.	Fiscal year.	Amount.
1877	\$14,043,458.05	1883	\$46,556.96
1878	3,855,368.57	1884	20,670.50
1879	705,158.66	1885	15,885.43
1880	251,717.41	1886	10,088.38
1881	109,001.05	1887	7,123.15
1882	58,705.53		

The total amount of each issue, the date when the issue began and when it was discontinued, the amount outstanding June 30, 1887, and

the percentage of the amount issued outstanding, are shown in the following statement:

Date when issue began.	Date when issue ceased.	Duration of issue.	Total issued.	Outstanding June 30, 1887.	Percentage outstanding.
August 21, 1862	May 27, 1863	9 mos., 6 days	\$20,215,685.00	\$4,281,024.13	21.18
October 19, 1863	Feb. 23, 1867	3 yrs., 4 mos., 13 days	23,164,483.65	3,106,080.56	13.41
December 3, 1864	Apr. 10, 1869	4 yrs., 4 mos., 11 days	86,115,028.80	2,982,407.03	3.46
July 14, 1869	Feb. 16, 1875	5 yrs., 7 mos., 2 days	170,567,032.00	3,686,961.07	2.09
February 26, 1874	Feb. 15, 1876	1 yr., 11 mos., 19 days	62,661,900.00	1,266,339.91	2.02
Total			368,724,070.45	15,322,902.70	4.16

The following table is given in order that comparison may be made of the percentage of fractional currency outstanding with the percentage of United States and national-bank notes of the early issues still outstanding:

Description.	Date when issue began.	Date when issue ceased.	Total issued.	Outstanding June 30, 1887.	Percentage outstanding.
United States notes.					
ALL DENOMINATIONS.					
New issue	Apr. 2, 1862	Apr. 19, 1869	\$669,321,676	\$8,849,594.20	1.32
Issue of 1869	Oct. 9, 1869	July 25, 1874	493,828,132	18,416,546.40	3.73
Issue of 1874	July 13, 1874	Sept. 13, 1875	87,098,000	4,619,574.20	5.21
Issue of 1875	July 20, 1875	June 20, 1879	190,688,000	14,660,519.80	7.69
			1,441,805,808	45,537,234.60	3.23
ONES.					
New issue	Apr. 2, 1862	Apr. 19, 1869	28,851,348	783,604.35	2.76
Issue of 1869	Oct. 9, 1869	July 25, 1874	42,456,812	423,822.75	1.00
Issue of 1874	July 13, 1874	Sept. 13, 1875	18,688,000	158,126.60	0.83
Issue of 1875	July 20, 1875	June 20, 1879	26,212,000	294,124.20	1.12
			116,008,160	1,658,677.90	1.43
TWOS.					
New issue	Apr. 2, 1862	Apr. 19, 1869	34,071,128	600,388.60	1.76
Issue of 1869	Oct. 9, 1869	July 25, 1874	50,511,920	410,576.40	0.81
Issue of 1874	July 13, 1874	Sept. 13, 1875	16,520,000	122,922.60	0.74
Issue of 1875	July 20, 1875	June 20, 1879	23,030,000	200,004.60	1.26
			124,139,048	1,423,892.20	1.15
National-bank notes.					
Ones	Apr. 1, 1865	Jan. 1, 1879	23,167,677	396,856.00	1.71
Twos	Apr. 1, 1865	Jan. 1, 1879	15,495,038	205,062.00	1.32

DISBURSING OFFICERS.

A large proportion of the money annually appropriated by Congress for the various expenditures of the Government is disbursed by officers and agents acting under the instructions of the heads of the Executive Departments, by whom such expenditures are by law required to be made, and upon whose requisitions money is advanced from the amounts appropriated and placed to the credit of the disbursing officers in the sub-treasuries or depository banks most convenient to the place of payment.

The magnitude and the importance of this branch of the public service, involving the care and custody of millions of dollars and the payment of vast numbers of checks and drafts, impose responsibilities and

risks which can hardly be overestimated. During the past fiscal year over \$450,000,000 was advanced to disbursing officers by the Treasurer of the United States upon the warrant of the Secretary of the Treasury. There remained unexpended, and to the credit of such officers, in the Treasury, the various sub-treasuries, and depositary banks, at the close of business, June 30, 1887, upwards of \$22,000,000.

The number of open accounts on the books of such offices and banks was 11,000, statements of balances of which are rendered to the Treasurer weekly and monthly. The disbursing officers are also required to render a statement of account for corresponding periods, and it is the duty of this office to compare the two statements, forwarding the officer's account, with proper information in regard to the examination and comparison, to the head of the Department under which he is serving. The number of statements of disbursing officers received, examined, indorsed, and returned during the fiscal year was 70,016.

POSTAL REVENUES.

It will be seen by an examination of the statement of receipts and expenditures of the Government on the first page of this report that the moneys received and disbursed on account of the Post-Office Department are not included therein. The total amount of such receipts and expenditures exceeds \$50,000,000, the greater portion of which is received and disbursed by postmasters without going into the Treasury at all; the amount, however, is carried into and out of the Treasurer's accounts with the Post-Office Department by postal warrants, issued at the close of each quarter for the total amounts involved. The expediency and the desirability of requiring all moneys received by the Post-Office Department to be deposited in the Treasury, and all payments to be made by warrants of the Secretary of the Treasury, issued upon the requisition of the Postmaster-General, have been frequently urged in the annual reports emanating from this office, and it is the opinion of the present Treasurer that the system applied to all other moneys received and paid out by Government officials should apply also to the Post-Office funds.

SPEAKER'S CERTIFICATES.

The money disbursed by this office during the last fiscal year in payment of Speaker's certificates for salary and mileage of Members and Delegates of the House of Representatives amounted to \$1,766,543.40. The Treasurer desires to renew the recommendation made in former annual reports, that the duty of making these payments be devolve upon some regularly qualified disbursing officer.

CLEARING-HOUSE TRANSACTIONS.

The usual tables showing the transactions of the sub-treasury at New York with the clearing-house in that city are here presented:

Period.	Checks sent to clearing-house.	Checks received from clearing-house.	Balances due assistant treasurer.	Balances due clearing-house.
Fiscal year 1884.....	\$116,666,000.26	\$205,541,048.32	\$1,331,880.02	\$180,207,828.08
Fiscal year 1885.....	109,420,072.25	278,830,720.11	694,284.08	170,104,931.94
Fiscal year 1886.....	125,782,520.53	276,855,487.30	1,643,279.86	152,716,246.63
1886.				
July.....	9,870,226.58	28,722,210.31	.....	18,851,992.73
August.....	10,728,210.72	20,666,782.11	.....	9,938,571.39
September.....	11,013,624.36	40,289,060.00	.....	29,255,435.64
October.....	10,562,348.44	38,427,715.67	.....	27,865,367.23
November.....	10,570,163.76	32,355,126.89	.....	21,784,957.13
December.....	11,156,037.39	41,531,713.88	.....	30,375,676.44
1887.				
January.....	8,548,894.43	27,908,891.95	.....	19,359,997.52
February.....	8,873,688.51	21,644,094.52	178,360.02	12,948,766.03
March.....	9,282,306.75	27,862,358.57	.....	18,580,051.82
April.....	7,880,116.57	25,977,634.75	.....	18,097,518.18
May.....	9,039,953.26	20,258,684.61	.....	11,218,733.35
June.....	9,126,355.84	27,826,621.43	3,049.55	18,703,315.14
Fiscal year 1887.....	116,671,928.61	353,470,001.64	181,409.57	236,986,882.60
July.....	8,015,851.62	27,212,414.30	.....	19,196,562.68
August.....	9,248,858.76	26,433,997.75	.....	17,185,138.99
September.....	9,167,233.41	42,348,851.15	.....	33,181,617.74

RECEIPTS FROM CUSTOMS AT NEW YORK.

The kinds of money received in payment of duties on imports at the port of New York for the past four fiscal years and for the first three months in this year are shown in the following table:

Period.	United States notes.	Per ct.	Gold coin.	Per ct.	Gold certificates.	Per ct.	Silver certificates.	Per ct.	Silver coin.	Per ct.	Total duties on imports, port of New York.
Fiscal year 1884.....	\$11,791,000.	8.8	\$3,556,000.	2.7	\$88,750,000	66.4	\$29,482,000	22.0	\$134,000.	0.1	\$133,713,000
Fiscal year 1885.....	38,161,000	29.9	1,544,000	1.2	42,770,000	34.1	44,660,000	35.6	158,000	0.1	125,302,000
Fiscal year 1886.....	59,549,000	44.9	941,000	0.7	54,343,000	41.0	17,404,000	13.1	390,500	0.3	132,627,500
1886.											
July.....	10,686,000	84.8	92,500	0.7	369,000	2.9	1,418,000	11.3	40,500	0.3	12,606,000
August.....	10,906,000	73.5	98,000	0.7	2,456,000	16.5	1,314,000	8.9	60,000	0.4	14,834,000
September.....	2,915,000	22.5	74,500	0.6	8,716,000	67.3	1,202,000	9.3	36,500	0.3	12,944,000
October.....	1,876,000	16.2	83,500	0.7	8,192,000	70.8	1,393,000	12.0	38,500	0.3	11,563,000
November.....	1,743,000	17.1	115,500	1.1	7,049,000	69.3	1,239,000	12.2	28,500	0.2	10,175,000
December.....	1,723,000	16.3	123,500	1.2	7,036,000	66.7	1,632,000	15.5	31,500	0.2	10,546,000
1887.											
January.....	1,739,000	14.7	109,500	0.9	8,004,000	67.8	1,900,000	16.2	46,500	0.4	11,808,000
February.....	1,984,500	15.1	49,500	0.4	9,723,000	74.2	1,323,000	10.1	32,000	0.2	13,112,000
March.....	1,848,000	13.0	118,250	0.8	10,593,000	74.5	1,617,000	11.4	35,750	0.3	14,212,000
April.....	1,566,000	13.6	126,500	1.1	8,270,000	71.6	1,554,000	13.4	39,500	0.3	11,556,000
May.....	1,322,000	12.1	110,500	1.0	7,889,000	72.4	1,537,000	14.1	41,500	0.4	10,900,000
June.....	1,631,000	13.8	155,000	1.3	8,590,000	72.6	1,426,000	12.0	38,000	0.3	11,840,000
Fiscal year 1887.....	39,939,500	27.3	1,256,750	0.9	86,887,000	59.5	17,561,000	12.0	468,750	0.3	146,116,000
July.....	1,471,000	11.6	177,000	1.4	9,689,000	76.2	1,330,000	10.4	47,000	0.4	12,714,000
August.....	1,598,000	10.3	126,000	0.8	12,475,000	79.9	1,377,000	8.8	36,000	0.2	15,612,000
September.....	1,444,000	10.4	144,500	1.1	11,051,000	79.9	1,100,000	8.4	33,500	0.2	13,833,000

The following table shows the amount of silver certificates in actual circulation on the dates mentioned therein, and also the percentage of each kind of money received from customs at New York:

Date.	Silver certificates.		Percentage of each kind of money received from customs at New York.					
	*Outstanding at close of month.	Increase during month.	United States notes.	Gold certificates.	Total gold receipts.	Increase.	Silver certificates.	Increase.
1886.								
April 30	\$90,733,141	.....	66.2	20.2	86.4	.....	12.3	.....
May 23	89,184,129	\$1,549,012	71.4	12.2	83.6	12.8	15.3	3.0
June 30	88,116,225	\$1,067,904	81.7	4.8	86.5	2.9	12.6	12.7
July 31	87,564,044	\$52,181	84.8	2.9	87.7	1.2	11.3	11.3
August 31	89,621,760	1,457,716	73.5	16.5	90.0	2.3	8.9	12.4
September 30	95,387,112	6,365,352	22.5	67.3	89.8	10.2	9.3	6.4
October 30	100,306,800	4,919,688	16.2	70.8	87.0	12.8	12.0	2.7
November 30	105,519,817	5,213,017	17.1	69.3	86.4	10.6	12.2	0.2
December 31	117,246,670	11,726,853	16.3	66.7	83.0	13.4	15.5	3.3
1887.								
January 31	118,315,714	1,009,044	14.7	67.8	82.5	10.5	16.2	0.7
February 28	121,130,755	2,815,041	15.1	74.2	89.3	6.8	10.1	16.
March 31	131,939,489	10,799,734	13.0	74.5	87.5	11.8	11.4	1.3
April 30	137,749,439	5,809,941	13.6	71.6	85.2	12.3	13.4	2.9
May 31	139,143,328	1,402,889	12.1	72.4	84.5	10.7	14.1	0.7
June 30	142,118,017	2,974,689	13.8	72.6	86.4	1.9	12.0	12.1
July 30	144,166,141	2,048,124	11.6	76.2	87.8	1.4	10.4	11.6
August 31	147,876,385	3,710,244	10.3	79.9	90.2	2.4	8.8	11.6
September 30	154,354,426	6,478,441	10.4	79.9	90.3	0.1	8.4	10.4

* From latest returns received.

† Decrease.

DEPOSITORY BANKS.

At the close of the fiscal year there were 200 national banks which were authorized by the Secretary of the Treasury to receive deposits of public funds, in accordance with existing law. The balance of such funds remaining to the credit of the Treasurer of the United States was \$19,190,076.79, and the amount held for the credit of United States disbursing officers was \$4,162,363.80, making at the close of the year a total of \$23,531,639.29. The par value of the United States bonds held by the Treasurer to secure the safe keeping and prompt payment of money held was \$26,485,500, and their market value \$31,820,538.

On October 31 the number of depository banks had increased to 220; the balance of public funds held for the credit of the Treasurer of the United States was then \$27,011,436.28, and the amount to the credit of disbursing officers \$4,756,041.95, making a total of \$31,767,478.23. The par value of United States bonds held to secure such deposits was \$33,924,500, and the market value on the same day \$41,048,326. The following table contains the details:

Class of bonds.	Per cent.	June 30, 1887.		October 31, 1887.	
		Face value.	Market value.	Face value.	Market value.
Bonds issued to Pacific railroads	6	\$175,000	\$227,500	\$125,000	\$337,625
Funded loan of 1891	4½	9,434,000	10,318,437	10,015,500	10,891,856
Funded loan of 1907	4	13,568,500	19,966,001	23,934,000	29,068,845
Funded loan of July 12, 1882	3	1,308,000	1,308,000	550,000	550,000
Total		26,485,500	31,820,538	33,924,500	41,048,326

The public funds received during the year by national-bank depositaries amounted to \$128,482,769.20, and the total of such moneys intrusted to the banks since the commencement of the national-banking system amounts to \$4,458,928,344.05. The only losses suffered by the Government on this account, since the present system was adopted, occurred over twenty years ago. Under the present method of Treasury supervision it is hardly possible for any losses to occur.

The early losses to the Government were caused by the failure of two banks, one in 1863 and one in 1864. These losses have been more than counterbalanced by the benefit derived from the increased conveniences for collecting and disbursing the revenues of the Government, without incurring any expense for transportation to the Treasury and sub-treasuries, and also relieving the Government, in many instances, of the risk and expense of the transportation of funds to places where money was needed for the payment of its creditors.

The receipts and disbursements of public funds by bank depositaries during the fiscal years since 1864 will be found in the following table:

Fiscal year.	Receipts.	Funds transferred to depositary banks.	Funds transferred to Treasury by depositary banks.	Drafts drawn on depositary banks.	Balance at close of the year.
1864	\$153,393,168.71	\$816,660.00	\$85,567,674.08	\$28,726,695.88	\$39,976,738.75
1865	987,594,639.14	8,116,294.70	584,697,912.72	415,887,767.81	30,065,992.06
1866	497,566,676.42	13,523,972.62	363,085,365.65	149,772,756.11	31,298,319.34
1867	351,737,083.83	8,405,903.63	331,039,872.57	37,218,612.76	26,182,821.47
1868	225,244,144.75	9,404,392.06	215,311,460.69	22,218,187.92	23,301,769.61
1869	165,160,573.67	10,052,199.44	114,748,877.24	14,890,463.75	8,875,141.73
1870	120,684,041.79	2,466,521.06	111,123,926.18	11,818,228.61	8,483,549.79
1871	99,299,816.85	2,633,129.45	89,428,544.04	13,790,961.01	7,197,015.04
1872	106,104,855.16	3,050,444.05	94,938,603.76	13,635,837.49	7,777,873.00
1873	169,602,744.98	9,004,812.49	108,089,786.76	16,110,519.07	62,185,153.64
1874	91,108,846.70	2,729,958.81	134,869,112.57	13,364,554.52	7,790,292.06
1875	88,228,249.53	1,757,445.66	82,184,304.05	13,657,678.25	11,914,004.89
1876	97,402,227.57	2,415,451.49	89,981,146.99	13,969,616.81	7,870,920.13
1877	106,476,261.22	2,353,196.29	94,276,400.35	14,862,206.88	7,555,776.41
1878	99,781,053.48	2,385,920.38	96,177,963.35	12,696,870.60	6,937,916.32
1879	109,397,525.67	6,890,489.06	100,498,469.29	15,544,058.34	7,183,463.42
1880	119,493,171.94	6,489,634.17	109,641,232.64	15,525,623.03	7,990,953.86
1881	131,820,062.20	5,646,692.46	118,143,724.91	18,388,772.82	8,933,550.79
1882	143,261,541.41	5,256,574.29	129,131,305.07	18,769,928.56	9,610,432.86
1883	145,974,256.86	5,292,810.22	132,675,358.80	18,771,472.81	10,030,698.33
1884	129,100,449.35	5,501,161.18	116,227,722.17	17,688,442.52	10,716,144.17
1885	119,056,038.94	4,798,782.35	105,952,609.09	17,633,235.03	10,985,141.34
1886	123,592,221.68	8,789,546.55	112,832,815.24	16,464,462.15	14,036,632.18
1887	128,482,769.20	11,476,372.92	118,372,954.27	16,432,743.24	19,190,076.79
Total	4,458,928,344.05	139,258,165.21	3,631,367,942.48	947,629,689.99	.....

PACIFIC RAILROAD SINKING FUNDS.

United States bonds and first-mortgage railroad bonds were held in this office for account of the Pacific Railroad sinking funds (20 Statutes, 56), at the close of the fiscal year, as follows:

Class of bonds.	For Union Pacific Railroad Company.	For Central Pacific Railroad Company.
United States bonds issued to Pacific railroads, 6 per cents	\$1,043,000	\$2,548,000
United States funded loan of 1907, 4 per cents	4,478,650	.....
Union and Central Pacific Railroad Company, first-mortgage thirty-year 6 per cents	360,000	42,000
Total	5,881,650	2,590,000

During the year all the 3 per cent. bonds held for the sinking funds, amounting to \$651,350, were withdrawn and paid by the Government, and the proceeds placed to the credit of the respective funds.

Four per cent. bonds held for the Central Pacific Railroad Company, amounting to \$199,100, were withdrawn and sold, and the proceeds invested in Union and Central Pacific Railroad first-mortgage bonds, some of which were purchased after the close of the fiscal year, and consequently do not appear in the above table. United States 6 per cent. bonds, amounting to \$2,104,000, were added to the fund.

United States 6 per cent. bonds, amounting to \$682,000, and Union and Central Pacific Railroad first-mortgage bonds, amounting to \$360,000, were added to the sinking fund of the Union Pacific Railroad Company.

The first-mortgage bonds of the above companies were purchased for the sinking funds under authority of the act of March 3, 1887. They were bought in the open market at the best rates obtainable by the assistant treasurer in New York, and the wisdom of the investment is shown by the fact that the interest yielded to the funds therefrom averaged 4.15 per cent., while United States bonds purchased prior to the passage of the act yielded under 3 per cent. and nearer 2½ per cent.

The bonds and cash to the credit of the respective funds June 30, 1887, were as follows:

Road.	Bonds.	Cash.	Total.
Union Pacific	\$5,481,650	\$77,057.10	\$5,558,707.10
Central Pacific	2,500,000	98,515.13	2,598,515.13

INDIAN TRUST FUNDS.

During the fiscal year the Indian trust funds held by the Treasurer of the United States as custodian for the Secretary of the Interior, trustee, were decreased in amount by the payment at maturity of \$2,000 for bonds of the State of Indiana, issued to the Wabash and Erie Canal Company. The total amount of the bonds now held by the Treasurer belonging to the fund is \$1,798,016.83. A description of them will be found in the following table:

Class of bonds.	Registered.	Coupon.	Total.
<i>State and canal bonds.</i>			
Arkansas—Funded debt		\$168,000	\$168,000.00
Florida—State stocks		132,000	132,000.00
Louisiana—State stocks		37,000	37,000.00
Maryland—State stocks	\$8,350.17		8,350.17
North Carolina—State stocks		192,000	192,000.00
South Carolina—State stocks		125,000	125,000.00
Tennessee—State stocks	191,666.66	123,000	314,666.66
Virginia—State stocks	540,000.00		540,000.00
Virginia—Chesapeake and Ohio Canal bonds		1,000	1,000.00
<i>United States bonds.</i>			
Bonds issued to Pacific railroads	280,000.00		280,000.00
Total	1,020,016.83	778,000	1,798,016.83

Many years' interest upon the State bonds, with the exception of those of Maryland and a portion of those of North Carolina, remains in default, amounting to a very large sum of money.

It will be seen by reference to the opinion of the honorable Secretary of the Interior, printed in the Treasurer's report for 1886, that proceedings for the collection of the defaulted principal and interest cannot be commenced until appropriate legislation shall have been enacted by Congress.

Any moneys due by the Government to the States in default are retained from time to time, as such moneys accrue, under section 3481, Revised Statutes, and are credited to the States as an offset to the amounts due.

Of the North Carolina bonds, \$16,000 became due January 1, 1887, and demand was made on the State authorities for payment. Reply was received that there was no provision for the payment of the bonds, but that they would be received in exchange for new stock under the terms of an act of the general assembly of the State, which reply, with accompanying papers, was referred to the Secretary of the Interior.

The interest on \$147,000 of the North Carolina State bonds, which are secured by lien on the North Carolina Railroad, is paid at irregular intervals by the receiver of the road. The last payment was made January 25, 1887, covering interest due to January 1, 1881, on \$26,000, and interest due to October 1, 1880, on \$121,000 of the bonds. Interest on the Maryland stock is paid quarterly as it becomes due.

By reference to the report of the Treasurer for the fiscal year ending June 30, 1883, it will be seen that in an action before the United States circuit court at Nashville, Tenn., to obtain payment of detached coupons from bonds of the Nashville and Chattanooga Railroad Company, amounting to \$153,510, verdict was rendered, by order of the court, against the United States, April 25, 1883, on the ground that the statute of limitations of the State of Tennessee barred the action. The case was taken by the United States district attorney on a writ of error to the Supreme Court of the United States, where the verdict was reversed. In December, 1886, a compromise was effected between this Department and the Nashville and Chattanooga Railroad Company, by which the face value of the coupons was to be paid in full, in six payments, beginning January 1, 1887. The agreement was carried out as arranged and the payments were made. The amount so paid went into the general account of moneys received by the Government as a miscellaneous receipt, the United States having paid to the Indian trust fund the full amount of the interest when it became due, as provided for by annual appropriations for that purpose.

MISCELLANEOUS TRUSTS.

The following amounts in United States bonds are held for the trusts named:

American Printing House for the Blind, 4 per cents	\$250,000
Pennsylvania Company, 4½ per cents	200,000
Manhattan Savings Institution, 4 per cents	75,000
Alaska Commercial Company, 4 per cents	55,000

The bonds held for the blind are in the name of the Secretary of the Treasury, trustee, interest to the Treasurer of the United States for credit of the appropriation to promote the education of the blind, act of March 3, 1879.

The Pennsylvania Company bonds are for the security of merchandise in transit.

The bonds of the Manhattan Savings Institution are held as indemnity for certain stolen bonds; and the bonds for the Alaska Commer-

cial Company are for security in a contract between that company and the Government.

The following described bonds are held in custody in this office for the Secretary of the Treasury, all, with the exception of the Louisiana and the Chattanooga Railroad bonds, having become the property of the United States by regular appropriations made to the trusts in which the bonds were originally purchased.

Arkansas State bonds.....	\$625,000
Chesapeake and Ohio Canal bonds.....	12,000
Louisiana State bonds.....	545,486
Nashville and Chattanooga Railroad bonds.....	500,000
North Carolina State bonds.....	13,000
Tennessee State bonds.....	21,000
Virginia State bonds.....	41,800

Of the Arkansas bonds, \$3,000 matured January 1, 1887, and demand was made for payment. Reply was received from the State authorities that no moneys were on hand for the purpose, but that favorable legislative action was expected. Statements of the indebtedness of Arkansas to the United States have been furnished to the State government for consideration in the anticipated settlement.

Like the State bonds held for the Indian trust funds, the interest on all of the above bonds, with the exception of the Nashville and Chattanooga Railroad bonds, is many years in default. Attention is again called to the necessity for some legislation by Congress on the subject of defaulted State bonds. In the Treasurer's report for the last fiscal year will be found a memorandum on the debts of the States named in the foregoing table, with the action had by the States in regard to funding.

UNITED STATES BONDS HELD FOR NATIONAL BANKS.

The United States bonds held in trust by the Treasurer at the close of the fiscal year to secure circulating notes issued to national banks, amounted to \$191,966,700, a decrease of \$84,003,100 from the amount held on the same account last year.

The amount of bonds held for security of deposits of public funds, June 30, 1887, was \$26,485,500, an increase of \$6,825,600 over the amount held at the same time in 1886.

The amount of bonds deposited during the year was \$57,432,150, and of bonds withdrawn \$134,614,650, a total movement of \$192,046,800, and a total decrease of \$77,182,500 in bonds held in trust for national banks.

The following table contains a description of the bonds on hand June 30, 1887:

Class of bonds.	Per cent.	To secure circulation.	To secure public mon- ey.	Total.
Bonds issued to Pacific railroads.....	6	\$3,175,000	\$175,000	\$3,350,000
Funded loan of 1891.....	4½	67,743,100	9,434,000	77,177,100
Consols of 1907.....	4	115,842,650	15,568,500	131,411,150
Loan of July 12, 1882.....	3	5,205,950	1,308,000	6,513,950
Total.....	.....	191,966,700	26,485,500	218,452,200

The following table shows the amount of bonds held by the Treasurer of the United States to secure circulating notes issued to national

banks, the amount of notes outstanding thereon, and also the amount of bonds held to secure deposits of public funds with national-bank depositaries, at the close of each fiscal year, from the commencement of the present national banking system, under the law approved February 25, 1863, and subsequent laws. It is given in order to show the changes that have taken place in the amount of securities held, and in the outstanding circulation, caused by business activity or depression, and during the last few years by the rapid decrease of the bonded indebtedness of the Government.

Fiscal year.	Number of banks June 30.	Bonds held to secure circulation.	Bonds held to secure deposits of public funds.	Total of bonds held.	National bank-notes outstanding as reported by Comptroller of the Currency.
1863	26	\$1,185,750		\$1,185,750	
1864	467	44,266,900	\$30,000,750	74,276,650	\$25,825,665
1865	1,294	235,089,700	32,707,500	268,697,200	131,452,158
1866	1,634	327,310,350	38,177,500	365,487,850	267,798,678
1867	1,636	340,607,500	39,177,950	379,785,450	291,769,553
1868	1,640	341,495,900	38,517,950	380,013,850	294,908,264
1869	1,619	342,851,600	25,423,350	368,274,950	292,753,286
1870	1,612	342,278,550	16,072,500	358,351,050	291,183,614
1871	1,723	359,485,550	15,536,500	375,422,050	307,793,880
1872	1,853	380,440,700	15,329,000	395,769,700	327,092,752
1873	1,968	390,410,350	15,210,000	405,620,550	338,788,564
1874	1,963	391,171,200	15,390,200	406,561,400	338,538,743
1875	2,076	376,314,500	14,547,200	390,861,700	318,148,406
1876	2,091	341,394,750	14,578,000	355,972,750	294,444,678
1877	2,078	338,713,000	15,377,000	354,090,600	290,002,057
1878	2,056	343,546,400	13,858,000	363,404,400	309,621,059
1879	2,048	354,254,600	14,421,400	368,676,000	307,328,695
1880	2,076	361,652,050	14,777,000	376,429,050	318,688,562
1881	2,115	360,595,900	15,295,500	375,891,400	312,223,352
1882	2,239	360,723,700	15,925,000	376,647,700	308,921,898
1883	2,417	358,596,500	17,110,000	375,712,500	311,963,302
1884	2,625	334,147,850	17,060,000	351,207,850	295,175,334
1885	2,689	312,145,200	17,607,000	329,752,200	269,147,000
1886	2,809	275,974,800	10,659,900	295,634,700	244,893,097
1887	3,014	191,966,700	26,485,590	218,452,290	169,625,658

SPECIAL DEPOSIT.

For a number of years a box of jewels had been in the custody of this office as a special deposit for the Department of the Interior. The jewels consisted of diamonds and pearls; there were also other articles, such as a bottle of the attar of roses and pieces of gold. The articles were presented to the Government, it is stated, by the Imaum of Muscat, many years ago. In pursuance of an application by the secretary of the Smithsonian Institution, indorsed by the Secretary of the Interior, the articles were delivered to the Institution in March last, and placed on exhibition in appropriate cases.

SEMI-ANNUAL DUTY.

The amount of semi-annual duty assessed upon and collected from the national banks, on account of circulation, for the fiscal year ending June 30, 1887, was \$2,044,922.75, a falling off from the amount collected for the preceding year of \$547,098.58. This falling off is due principally to the redemption of 3 per cent. bonds and a consequent retirement of circulation, there having been a net withdrawal of these bonds held as security for circulation, during the fiscal year, of \$102,576,150, and a total decrease of all bonds held to secure circulation of \$84,008,100.

The national banks have paid into the Treasury, on account of semi-annual duty, since the organization of the system, the following amounts :

On account of duty on circulation	\$65,841,721.30
On account of duty on deposits	60,940,067.16
On account of duty on capital	7,855,887.74
Total	134,637,676.20

THE REDEMPTION OF NATIONAL-BANK NOTES.

The amount of national-bank notes presented for redemption during the fiscal year, as claimed by the holders and taken up on the books of the redemption agency, was \$87,689,687.15. The count in this office showed that a total of \$16,404.07 was presented without being claimed, and that a total of \$22,356 claimed was not presented. There was included \$464,413.45 in United States and other currency, which was referred to other parts of the Treasurer's office or returned to the owners; \$2,554.23 was rejected or deducted on account of mutilation, \$573.58 was deducted for express charges, \$2,924 was counterfeit, and \$87,213,269.96 was paid to the owners as net proceeds. The smallest receipts for any month were \$5,438,047, in September, and the largest were \$11,513,904, in January.

During the thirteen years that the redemption agency has been in operation the amount presented has aggregated \$1,772,626,148, an annual average of \$136,355,857. The amount presented the past year was less than any other, except 1880, 1881, and 1882, and nearly \$50,000,000 less than the average. The falling off from the fiscal year 1886 was \$42,606,919, or 32.70 per cent. The excess over the least amount for any year, which was \$59,650,259, in 1881, was about \$28,000,000. The decrease in the demand for redemption during the last few years has been due mainly to the contraction of the volume of circulation outstanding, and in part to other causes.

Included in the sum rejected during the year were notes of the nominal value of \$245, described as "stolen," which had been fraudulently put in circulation without the signatures of the bank officers. This is a decrease of \$175 as compared with the year before. The counterfeit notes presented show an increase of \$204 over the same period.

Of the receipts for redemption, \$31,314,583, or 35.71 per cent., came from New York; \$13,219,269, or 15.08 per cent., from Boston, and \$6,972,856, or 7.95 per cent., from Philadelphia. The aggregate from these three cities was \$51,506,708, or 58.74 per cent. of the whole receipts, as against 66.65 per cent. for the fiscal year 1886.

Of the proceeds of redemptions for the year, \$39,996,984.07, or 45.86 per cent. of the whole, was remitted by transfer checks on assistant treasurers of the United States; \$15,657,298.62, or 17.95 per cent., by the shipment of currency; \$346,641.33, or .4 per cent., by shipment of fractional silver coin and standard silver dollars; and remainder was paid over the counter or credited in account. The percentages show little variation from those for the previous year. Shipments of currency increased and the transfer checks diminished relatively about 11 per cent., which was due mainly to the demand for silver certificates of the denominations of one, two, and five dollars.

The deposits made during the year in the 5 per cent. redemption fund amounted to \$52,522,359.27, of which \$46,254,760.76, or 88.07 per cent., was received by the assistant treasurers from the banks or their correspondents, and \$6,267,598.51, or 11.93 per cent., was received from the Treasurer over the counter or by express.

The notes redeemed out of the 5 per cent. fund amounted to \$51,292,670. Of these, \$20,786,640, or 40.53 per cent., were fit for circulation, and were returned by express, in 24,301 packages, to the banks of issue; and the remainder were delivered to the Comptroller of the Currency for destruction, either because they were unfit for circulation or because they were to be retired under provisions of law or at the request of the banks. The percentages of the two classes of notes, as compared with the fiscal year 1886, show a decrease of 5.60 per cent. in notes fit for circulation and a corresponding increase in notes destroyed.

The deposits made in the Treasury during the year for the retirement of national-bank notes, under the various provisions of law, aggregated \$75,196,810.25. The redemptions under the same laws amounted to \$37,452,598; so that there was a net increase of \$37,744,212.25 in this fund. Both the deposits and the redemptions largely exceed those of any previous year. The increase in the deposits was caused by the forced withdrawal of 3 per cent. bonds held to secure circulation, the banks affected preferring generally to reduce their deposits of bonds to the minimum allowed by law and provide for the reduction of their circulation proportionately, rather than to pay the prices asked for available securities. The increase in the redemptions from this fund is the result of the increase in the number of the banks whose notes are chargeable against it. The total deposits made in the fund, to June 30, 1887, were \$370,422,203.25, of which sum \$272,429,285.15 had been paid out for notes redeemed and \$97,992,918.10 remained on deposit.

The amount of notes assorted that were subject under the law to assessment for expenses of redemption was \$87,596,890. The total expenses incurred and paid out of the 5 per cent. fund were \$138,967, making the rate of assessment \$1.58⁵⁴⁴/₁₀₀₀ per \$1,000. The expenditures on all accounts were \$29,276.35 less than for the fiscal year 1886, the decrease being mostly in charges for transportation, which fell off from \$4,490.52 to \$48,020.53. The amount paid for salaries was \$1,614.64 less than the previous year, and \$6,429.46 less than the amount appropriated by Congress.

On December 11, 1886, there was charged against the fund arising from assessments under the provisions of section 8 of the act of July 12, 1882, on national banks making deposits for the retirement of their circulation in full, the sum of \$9,348.86, for the proportionate share of the expenses incurred during the fiscal year 1886 in redeeming the notes of banks so assessed. The assessments made during the past year under the same section amounted to \$1,716.66; and the balance of the fund in the Treasury on June 30, 1887, was \$19,714.08.

I have the honor to be, very respectfully, your obedient servant,

JAMES W. HYATT,
Treasurer of the United States.

Hon. CHARLES S. FAIRCHILD,
Secretary of the Treasury.

REPORT OF THE DIRECTOR OF THE MINT.

TREASURY DEPARTMENT,
BUREAU OF THE MINT,
Washington, D. C., November 1, 1887.

SIR: I have the honor to submit the following report of the operations of the United States Mints and Assay Offices for the fiscal year ended June 30, 1887, being the fifteenth annual report of the Director of the Mint, and the third of the same series by me submitted.

DEPOSITS AND PURCHASES OF GOLD AND SILVER.

The value of the gold deposited at the mints and assay offices of the United States during the fiscal year 1887, not including re-deposits, was \$68,223,072.87 (3,666,990.170 standard ounces), against \$44,909,749.23 in the preceding year, an excess of \$23,313,323.64 over the fiscal year 1886. In addition, there were re-deposits, that is, United States mint or assay office bars returned, of the value of \$15,193,706.53. Of the re-deposits of gold \$3,517,523.15 represents the value of unparted bars, the product of the minor assay offices of the United States sent in an unparted condition to the mint at Philadelphia for refining and coinage.

The remainder of the re-deposits of gold, \$11,676,183.38, was fine bars bearing the stamp of the United States assay office at New York. Of these, \$7,933,743.98 which had been exported were subsequently imported into the United States and re-deposited during the year.

The value of the total deposits of gold during the fiscal year 1887, including all re-deposits as above cited, was \$83,416,779.40 against \$49,606,534.65 in 1886, an excess in the year 1887 of \$33,810,244.75.

It will be understood that the unparted bars from minor assay offices deposited, or as stated re-deposited, for parting and refining at a coinage mint, and going to make up the total re-deposits at the mint at Philadelphia, are also included along with original deposits at the minor assay offices.

The value of the silver deposited and purchased, not including re-deposits, was \$47,756,918.75 (41,041,102.21 ounces), against \$35,494,183.24 in the preceding year, an excess of \$12,262,735.51.

In addition, there were re-deposits of silver amounting to \$462,113.19. Of these re-deposits \$169,514.91 consisted of fine bars, all of the assay office at New York, except \$1,252.41 of the mint at Philadelphia; and \$292,598.28 of unparted bars, being the value of the silver contained in gold bullion originally deposited at the minor assay offices. The latter value, the same as in the case of gold re-deposited from minor assay offices, is also a part of the total including (original) deposits and re-deposits.

This total, calculated at coining rate in standard silver dollars, was \$48,219,031.94 against \$37,917,026.36 in the preceding year, an excess of \$10,302,005.58.

The total value of both gold and silver deposited and purchased at the mints of the United States during the fiscal year 1887, not including re-deposits, was \$115,979,991.62, and including re-deposits, \$131,635,811.34.

The value of the gold and silver received at the mints and assay offices during the fiscal year 1887 was greater than in any previous year since

1881. A comparison for the past eight years is exhibited in the following table:

VALUE OF GOLD AND SILVER (NOT INCLUDING RE-DEPOSITS) RECEIVED AT THE MINTS AND ASSAY OFFICES DURING THE FISCAL YEARS 1880-1887.

Fiscal years.	Gold.	Silver.	Total.
1880.....	\$98,835,096	\$34,640,522	\$133,475,618
1881.....	130,833,102	30,791,146	161,624,248
1882.....	66,756,652	33,720,491	100,477,143
1883.....	46,347,106	36,869,834	83,216,940
1884.....	46,326,678	36,520,290	82,846,968
1885.....	52,894,075	36,789,774	89,683,849
1886.....	44,909,749	35,494,183	80,403,932
1887.....	68,223,072	47,756,918	115,979,990

The value of the silver in the above table is computed at the coining rate in standard silver dollars, equivalent to \$1.16 $\frac{1}{4}$ per standard ounce.

Of the gold deposited at the mints and assay offices during the year, \$32,973,027.41 was classified as of domestic production, against almost the same amount in the fiscal year 1886.

The value of the foreign gold bullion deposited was \$22,571,328.70, against \$4,317,068.27 in 1886.

The value of the foreign gold coin received and melted was \$9,896,512.28, against \$5,673,565.04 in the year preceding.

The value of the United States gold coin deposited for recoinage, principally by the Treasurer of the United States, was \$516,984.63, against \$393,545.28 in the preceding year.

In addition to the gold bullion both of domestic and foreign production, and the foreign and domestic gold coin deposited, old material in the form of jewelry, bars, old plate, etc., was received containing gold of the value of \$2,265,219.85.

The marked increase in the deposits of gold was at the assay office at New York, the value of the foreign gold bullion and coin deposited at that institution during the year being \$30,621,006.95, exclusive of fine bars of its own manufacture, of the value of \$7,933,743.98, imported and re-deposited.

Of the silver bullion deposited and purchased at the mints and assay offices during the year, \$37,874,259.61 (32,548,191.93 standard ounces) was classified as of domestic production. But, as fully explained in my Report on the Production of the Precious Metals in the United States, 1886, the classification of silver bullion as of domestic production at the mints is necessarily inexact, for the reason that fine silver bars purchased from private refineries in the United States and classified at the mints as of domestic production, are manufactured in part from ore and bullion imported from Mexico and other neighboring countries.

The value of silver bullion of foreign extraction, classified as such, deposited at the mints during the year 1887, was \$1,457,406.01 (1,252,458.30 standard ounces). This bullion corresponds only to foreign silver bullion distinctively known as such.

The value of foreign silver coin deposited during the year was \$350,598.86, against \$812,664.50 in the preceding year.

The value of the United States silver coin deposited (calculated at the coining rate in silver dollars), not including trade-dollars, was \$768,739.32 (660,635.36 standard ounces), most of which consisted of

worn and uncurrent silver coins transferred from the Treasury of the United States for recoinage.

Trade-dollars were received mostly by transfer from the Treasury of the United States, and melted. The bullion contained 5,837,791.57 standard ounces, of the coinage value in standard silver dollars of \$6,793,066.89. The transactions in trade-dollars will be more fully explained under a separate heading on the redemption of trade-dollars.

In addition to the foreign and domestic bullion and coin deposited at the mints, silver, consisting of plate, jewelry, and old material generally, of the value of \$512,848.06, was deposited during the year, against \$467,156.36 in the preceding year.

COINAGE.

The coinage of the fiscal year 1887 consisted of 98,122,517 pieces, of the value of \$57,703,413.40. It was executed at three coinage mints, namely, the mints at Philadelphia, San Francisco, and New Orleans. The gold coinage consisted of 3,724,720 pieces, of the value of \$22,393,279, of which \$22,280 was in double eagles, \$7,560,670 in eagles, \$14,800,375 in half-eagles, \$3,501 in three-dollar pieces, \$260 in quarter eagles, and \$6,193 in dollars. The gold coinage of the year for depositors was confined to eagles and half-eagles in the proportion of about two of the latter to one of the former. There was also executed the usual complementary coinage, consisting of all other coins of the series, in number sufficient to meet the public demand for proof sets and other cabinet purposes, and as many besides as were deemed enough to prevent overvaluation from immediate rarity. Of the gold coinage, \$22,360,000 was executed at the mint at San Francisco, consisting of \$7,560,000 in eagles and \$14,800,000 in half-eagles.

The silver coinage consisted of 44,231,288 pieces, of the coinage value of \$34,366,483.75, of which \$33,266,831.00 was in silver dollars, executed principally at the mints at Philadelphia and New Orleans, and \$1,095,279.50 in dimes. The remainder, being half-dollars and quarter-dollars, constituted the usual complementary coinage for proof pieces, etc.

A very large minor coinage was executed during the year, consisting of 50,166,509 pieces, of the nominal value of \$943,650.65. Of this coinage, 11,047,523 pieces consisted of 5-cent nickels, 4,232 of 3-cent nickel pieces, and 39,114,754 pieces of bronze cents.

While the value of the coinage executed during the fiscal year 1887 was not so great as that of the preceding year, the number of pieces struck largely exceeded the coinage of that year, being 98,122,517 pieces, against 38,384,622 pieces in 1886. The number of gold pieces was less, and the number of silver pieces greater, the latter being 44,231,288 in 1887, against 31,627,157 in 1886. The number of minor coins struck was 50,166,509 in 1887, against 1,706,651 in the preceding year. The volume of business transacted at the coinage mints during the past fiscal year can only be understood and appreciated with reference to the immense coinage executed at the three coinage institutions, namely, 98,122,517 pieces.

The mint at Carson was closed for coinage purposes during the year, although open for the receipt of deposits, practically on the basis of an assay office.

In the Appendix will be found the usual tables exhibiting the coinage by mints and by denomination of pieces during the fiscal year 1887, and also covering the calendar year 1886.

A table will likewise be found showing the coinage of the mints, by institutions and by denomination of pieces, each calendar year since the organization of the mint at Philadelphia in 1792. This valuable table, which has been compiled with no little care and research, from original sources of information, such as the work-books and delivery books of the coinage mints, has never before appeared. Wherever it differs in any respect from the figures heretofore presented for the same years recourse has been had to the original accounts on file in the office of the Register of the Treasury. It is therefore believed that this table exhibits, as nearly as can be exhibited at this time, the coinage of the mints of the United States by calendar years since the organization of the mint at Philadelphia. It may at least be claimed with confidence that it is as nearly perfect as can be made at present, under the circumstance that the early records of the mint service are neither complete nor in conformity with modern detail of statement.

The principal difficulty in the way of a compilation of coinage by calendar years, arises from the change from calendar to fiscal years made in 1857 in official reports. The coinage, which previous to 1857 had been reported for calendar years, was after that date reported by fiscal years, until 1880, when statements were also made for calendar years.

The local records of the mint at Dahlonega have not survived the disorganization of that institution in 1861. Monthly and annual reports made by the superintendent to the Director of the Mint have been found at Philadelphia, and the original accounts of bullion and coin remain on file in the Treasury Department.

The records of the mint at Charlotte are not in as perfect order as could be wished.

The work-books of the mint at New Orleans show that a coinage was executed at that institution in 1861, between January 26 and May 31, by the State of Louisiana, after the mint was closed against the United States, amounting to \$195,000 in double eagles; and a coinage by the Confederate States of \$59,820 in double eagles:—a total gold coinage during the sequestration of the mint of \$254,820.

In the second and third months of the same year there was also executed by the State of Louisiana at the United States mint in the city of New Orleans a silver coinage of \$620,000 in half dollars; and by the Confederate States in the following months of April and May, \$481,316.50:—a total silver coinage of half-dollars by the State of Louisiana and the Confederate States of \$1,101,316.50, from regular dies of the United States supplied late in 1860 for the following year. For obvious reasons, neither of the coinages executed at the United States mint at New Orleans, while out of the control of the Government, has ever been taken up in statements of the coinage of the United States.

Thirty-two pairs of dies of the date of 1861, more or less complete, and of all denominations of United States coins, were found at the mint by the agent of this Bureau in January, 1885, and by him destroyed on the 15th of that month.

It is presumed that the larger part, if not the whole, of the gold coin struck, as above described, from United States coinage dies under other than legal auspices, was applied to purchases abroad, and that accordingly it has long since been melted down without ever having appeared in any form in domestic circulation.

The following very interesting statement of the above incidents in the history of the coinage from dies of 1861 is from the pen of Dr. M.

F. Bonzano, melter and refiner of the mint at New Orleans during the period in question :

NEW ORLEANS, November 4, 1887.

SIR: In compliance with the request contained in your letter of the 27th ultimo; to furnish such information as I might have in regard to the coinage at the United States branch mint at New Orleans during its occupation by the State of Louisiana and the Confederate States in the early part of 1861, I beg leave to make the following statement :

The officers of the United States branch mint at the time of the secession of the State of Louisiana from the Union were: William A. Elmore, superintendent; A. J. Guirot, treasurer and ex-officio assistant treasurer United States; Howard Millsbaugh, assayer; B. P. Taylor, coiner; M. F. Bonzano, melter and refiner.

The branch mint and its contents and all other property of the United States were "taken in trust" by the secession convention in December, 1860, through a committee of the convention, at the head of which was the president of the convention, Ex-Gov. A. Mouton. The committee called at the mint, ascertained the amount of bullion in the hands of the treasurer, melter and refiner, and coiner, and required a special bond for the same from each of these officers. A rough settlement was made and all dies of 1860 defaced in the presence of all the officers (except Mr. Guirot). By order of the superintendent coinage was immediately resumed with the new dies of 1861, and continued until the 31st of May, 1861, when a final settlement was made and all bullion transferred to Mr. A. J. Guirot, who had in the mean time been appointed assistant treasurer of the Confederate States. At the same time all the United States dies, of every description—after careful examination and recognized agreement with the coiner's die account—were, with the consent of the coiner, and in my presence, defaced by the late Mr. John F. Brown, the foreman of the department, with the assistance of a workman, the late Mr. Richard Stevenson.

Under the auspices of the superintendent, treasurer, and coiner, who probably believed in the possibility of a peaceful secession, designs for a Confederate coin were made, and that of a half dollar by the coiner, accepted and executed by an engraver of this city, who produced a half-dollar die of such high relief as rendered it impracticable for use in a coining press. From this die four pieces were struck, by successive blows of a screw-press. These four pieces differed from the United States standard only in the legend. I never saw any of these pieces, nor the die, and only the preliminary sketch of it. My information was derived from Mr. John F. Brown, at the time. With the exception of these four pieces no coins of any kind, differing from the United States standard, were ever made at the New Orleans branch mint during the interval from May 31, 1861, to the early part of 1879.

On my return to this city, June 7, 1862, after an absence, at the North, of eleven months, I took charge of the mint as special agent of the Treasury Department; found the canceled or defaced dies undisturbed and intact in the coiner's vault and retained them in my custody until the latter part of December, 1878, when I delivered them, as coiner, to my successor, Mr. M. V. Davis, in the same packages as they were on the 31st of May, 1861. Thenceforth my connection with, and knowledge of, these canceled dies ceased.

I have the honor to be, yours, very respectfully,

M. F. BONZANO.

Hon. JAS. P. KIMBALL,
Director of the Mint, Washington, D. C.

MANUFACTURE OF GOLD AND SILVER BARS.

In addition to the coinage executed during the year, gold and silver bars were manufactured as follows :

BARS MADE, 1887.

Gold	\$58, 188, 933. 06
Silver	6, 461, 611. 25
Total	64, 650, 544. 31

The corresponding values for the preceding year were :

BARS MADE, 1886.

Gold	\$79, 031, 809. 21
Silver	8, 226, 223. 77
Total	87, 258, 032. 98

Most of the bars were manufactured at the United States assay office at New York, the value of the bars made at that institution during the fiscal year 1887 being:

BARs MADE AT ASSAY OFFICE AT NEW YORK, 1887.

Gold.....	\$53, 915, 363. 57
Silver.....	5, 565, 095. 65
Total.....	59, 510, 463. 22

against \$22,541,978.43 in the preceding year.

The bars manufactured at the minor assay offices were "unparted bars," that is, deposits of gold and silver melted, and only partially refined by fluxing off base metals. Most of these bars were transmitted to the mint at Philadelphia for refining and coinage.

MEDALS AND DIES MANUFACTURED.

The number of medals made at the mint at Philadelphia during the fiscal year ended June 30, 1887, was as follows:

Gold.....	56
Silver.....	436
Brass.....	157
Total.....	649

The number of medals sold during the year was 590, valued at \$3,240.20. Proof sets of the coinage of the year were also sold to the number of 3,786, for which there was charged \$4,060.40. The profit on the sale of medals and proof sets was \$1,916.28.

Of the coinage and medal dies, numbering 1,198, manufactured at the mint at Philadelphia during the fiscal year 1887, 120 were for gold coinage, 359 for silver coinage, 684 for minor coinage, 27 for proof coinage, and 8 were medal dies.

The cost of engraving the dies for the coinage of the mints at San Francisco and New Orleans was reimbursed the mint at Philadelphia from the appropriations for the institutions for which the dies were prepared.

In the Appendix will be found a statement exhibiting in detail dies manufactured for each of the coinage mints.

EXCHANGE OF GOLD BARS FOR GOLD COIN.

Under the act of May 26, 1882, the mints of the United States and the assay office at New York are authorized to exchange gold bars for deposits of United States gold coin when presented in sums of not less than \$5,000.

The value of the bars so exchanged for coin at the mint at Philadelphia and at the assay office at New York during the fiscal year 1887 was \$7,604,059.89, against \$31,598,748.81 in 1886. This shows a large falling off in the demand for gold bars for export, which is the principal purpose of their exchange. The value of the bars exchanged for coin each

month of the fiscal year at each of the institutions named is exhibited in the following table:

STATEMENT BY MONTHS OF FINE GOLD BARS EXCHANGED FOR GOLD COIN AT THE MINT AT PHILADELPHIA AND ASSAY OFFICE AT NEW YORK FROM JULY 1, 1886, TO JULY 1, 1887.

Date.	Philadelphia.	New York.	Total.
1886.			
July	\$30, 102. 40	\$1, 068, 874. 32	\$1, 098, 976. 72
August	35, 125. 06	377, 804. 86	412, 930. 82
September	50, 177. 19	600, 972. 21	651, 149. 40
October	35, 122. 07	545, 926. 47	581, 048. 54
November	50, 177. 82	528, 592. 05	578, 770. 47
December	30, 100. 20	328, 762. 41	358, 871. 61
1887.			
January	40, 137. 19	354, 761. 56	394, 901. 75
February	35, 121. 03	1, 289, 070. 54	1, 324, 791. 57
March	60, 212. 61	621, 341. 33	681, 553. 94
April	40, 140. 69	522, 889. 94	563, 030. 63
May	40, 163. 11	478, 966. 09	519, 129. 10
June	25, 088. 67	413, 825. 07	438, 914. 34
Total	471, 607. 94	7, 132, 391. 95	7, 604, 039. 89

REFINING BY ACID.

The acid refineries of the assay office at New York and of the coinage mints, including the mint at Carson, have received during the year for refining, and for parting of the precious metals, 6,111,121 gross ounces, containing gold and silver of the value of \$30,397,422.

The value of the gold and silver product of the acid refineries during the year was as follows:

Bullion.	Standard ounces.	Value.
Gold	1, 329, 631	\$24, 737, 320
Silver	4, 864, 152	5, 660, 102
Total	6, 193, 783	30, 397, 422

This sum was against \$27,786,006 in the preceding year, an increase in the value of the bullion refined of \$2,611,416.

A considerable increase will be noticed in the value of the gold bullion refined in 1887 as compared with the returns of the year preceding, namely, \$24,737,320 against \$20,896,613. The value of the silver refined was, on the other hand, less, namely, \$5,660,102 in 1887 against \$6,889,311 in 1886. As on several occasions I have taken occasion to indicate, smaller proportion of the silver product of the mines of the United States is received each year at the Government institutions for refining, the bulk of it going to the large private refineries. But the amount of gold sent to the Government institutions is annually increasing.

While nearly the whole production of gold in the United States eventually finds its way either directly or through the assay offices of the

nited States to the mints for coinage or manufacture into bars, only much of the silver product as may be required for coinage or deposited for bars, or about five-sixths of the whole, reaches the mints.

This is mainly in the form of refined silver as turned out by private refineries. It is in this form that all purchases of silver bullion are made, except those in the form of partings from gold deposits at mints and assay offices, occasional purchases of doré silver for the technical requirements of acid refineries, and deposits of silver in lots less than 10,000 ounces.

The following table exhibits the weight and value of the bullion treated by the refineries of the mints and of the assay office at New York, and the weight and value of the precious metals extracted during the year 1887:

Mint or assay office.	Gross ounces.	Gold.		Silver.		Total value.
		Standard ounces.	Value.	Standard ounces.	Value.	
Philadelphia.....	721, 765	190, 539	\$3, 544, 912	553, 437	\$613, 999	\$4, 188, 911
San Francisco.....	1, 506, 217	365, 970	0, 808, 744	1, 248, 071	1, 452, 300	8, 261, 044
Carson.....	45, 447	3, 606	67, 088	45, 665	58, 137	120, 225
New Orleans.....	15, 544	4, 840	90, 046	11, 167	12, 994	103, 040
New York.....	3, 822, 148	764, 676	14, 226, 530	3, 005, 812	3, 497, 672	17, 724, 202
Total.....	6, 111, 121	1, 329, 631	24, 737, 820	4, 864, 152	5, 660, 102	80, 307, 422

SILVER PURCHASES.

Purchases of bullion for the standard silver dollar coinage were made during the year in the manner explained in my last annual report. Since the second of March, 1887, the offers of lots of over ten thousand ounces, received on Tuesday and Friday of each week, have been addressed to the Director of the Mint, as was the case previous to July 14, 1885, when, at his own request, this Bureau was relieved from the immediate receipt of proposals.

The amount of silver bullion delivered during the year in lots of over ten thousand ounces, upon purchases made by the Secretary of the Treasury through the Bureau of the Mint, was 29,018,932.12 standard ounces, at a cost of \$25,624,487.37, or an average cost per standard ounce of \$0.883026, or of \$0.98114 per ounce fine.

The average London price for the year, computed from daily quotations by cable to the Bureau of the Mint, was 44.843 pence per ounce for silver .925, British standard. This, at the average rate, \$4.8590, of sterling sight exchange, is equal to \$0.98148 per ounce fine, or \$0.88333 per ounce .900, United States standard.

The purchases made by the superintendents of the mints at San Francisco, Carson, Philadelphia, and New Orleans of lots of less than ten thousand ounces, at prices fixed from time to time by the Director of the Mint, amounted to 282,626.95 standard ounces, at a cost of \$249,150.73. The amount of silver purchased in the form of bar fractions, together with the amount parted from gold deposits and received in payment of charges on deposits of silver bullion for return in fine bars, was 131,783.20 standard ounces, costing \$114,982.36.

The total amount of silver purchased in the two ways above stated, for the standard silver dollar coinage during the fiscal year was 29,433,122.27 standard ounces, at a cost of \$25,988,620.46. The average cost per standard ounce was \$0.883965, equal to \$0.981072 per fine ounce.

The number of ounces and cost of silver bullion delivered upon purchases for the silver-dollar coinage during the year are shown in the following table:

Mode of acquisition.	Standard ounces.	Cost.
Purchases, Treasury Department, Bureau of the Mint	29, 018, 932. 12	\$25, 624, 487. 87
Purchases by mint officers	282, 626. 95	249, 150. 73
Partings, bar charges and fractions	131, 783. 20	114, 982. 36
Total delivered on purchases	29, 433, 342. 27	25, 988, 620. 46
Balance on hand July 1, 1886	3, 258, 495. 66	2, 960, 969. 02
Available for coinage of silver dollars during the fiscal year 1887	32, 691, 837. 93	28, 949, 589. 48

At the beginning of the fiscal year 1887 there was on hand at the mints at Philadelphia, New Orleans, and San Francisco, as above stated, silver bullion previously purchased for the silver dollar coinage amounting to 3,258,495.66 standard ounces, of the cost value of \$2,960,969.02. There was delivered at the mints on purchases of all kinds during the year, as above, 29,433,342.27 standard ounces, at a cost of \$25,988,620.46, making the total amount of silver available during the fiscal year for the silver dollar coinage 32,691,837.93 standard ounces, costing \$28,949,589.48.

The amount and cost of silver bullion delivered on purchases at the several mints are exhibited in the following table:

Mints.	Standard ounces.	Cost.
Philadelphia	18, 751, 084. 06	\$16, 546, 243. 71
New Orleans	10, 056, 089. 92	8, 881, 509. 04
San Francisco	581, 524. 93	520, 240. 05
Carson	44, 643. 37	40, 627. 66
Total	29, 433, 342. 27	25, 988, 620. 46

There were manufactured during the year, by three mints, 33,266,831 silver dollars. The amount of silver used in this coinage was 28,588,682.89 standard ounces, the cost of which was \$25,343,272.39. In addition to this employment there was wasted by the operative officers 15,337.87 standard ounces, costing \$13,473.13, and sold in sweeps 35,548.50 standard ounces, costing \$31,994.86, making the total amount of silver used in the silver dollar coinage 28,639,569.26 standard ounces, costing \$25,388,740.51.

The seignorage on silver dollars coined during the year was \$7,923,558.61.

The amount and cost of silver bullion available for the silver dollar coinage at the several mints, June 30, 1887, are set forth in the following table:

Mints.	Standard ounces.	Cost.
Philadelphia	2, 116, 768. 08	\$1, 849, 874. 10
New Orleans	1, 858, 213. 68	1, 367, 086. 85
San Francisco	332, 613. 54	302, 300. 30
Carson	44, 643. 38	40, 627. 66
Total	4, 652, 268. 68	3, 560, 848. 97

In the Appendix will be found tables exhibiting by months the amount and cost of silver delivered on purchases, and the amount and cost of silver employed, and also the number of silver dollars coined monthly at the several mints.

DISTRIBUTION OF SILVER DOLLARS.

The silver dollars in the coinage mints on the 1st July, 1886; the number coined during the year, and the distribution of the same under section 3527 of the Revised Statutes, as well as the amount transferred to the Treasury of the United States, are exhibited in the following table:

Period.	Philadelphia.	San Francisco.	New Orleans.	Carson.	Total.
On hand June 30, 1886	\$27,974,020	\$19,229,530	\$3,270,237	.....	\$50,482,787
Coinage of fiscal year 1887	21,200,831	768,000	11,210,000	.....	33,266,831
Total	40,264,851	19,997,530	14,480,237	.....	83,742,618
Transferred to United States Treasury	10,500,000	.....	.....	.....	10,500,000
Balance	28,764,851	19,997,530	14,480,237	.....	73,242,618
Transferred to the United States mint at Carson .....	.....	25,000	.....	.....	.....
Transferred from United States mint at San Francisco .....	.....	.....	.....	\$25,000	.....
Available for distribution	38,764,851	19,972,530	14,480,237	25,000	73,242,618
In mints June 30, 1887	35,386,110	18,768,015	8,163,744	9,821	62,347,690
Distributed	3,378,741	1,182,515	6,325,493	15,179	10,901,928

From this table it appears that 10,901,928 silver dollars were distributed from the mints, and 10,500,000 transferred to the Treasury, making a total of 21,401,928 silver dollars paid out by the mints.

CIRCULATION OF SILVER DOLLARS.

The following table shows the total coinage of silver dollars, the number held by the Treasury for the redemption of certificates, the number held in excess of outstanding certificates, and the number in circulation at the end of each six months from July 1, 1885, to July 1, 1887; also on October 1, 1887:

Period.	Total coinage.	In the Treasury.		In circulation.
		Held for payments of certificates outstanding.	Held in excess of certificates outstanding.	
July 1, 1885	\$203,884,381	\$101,530,946	\$63,882,166	\$38,471,269
January 1, 1886	218,259,761	93,179,465	72,638,725	52,541,571
July 1, 1886	233,723,286	88,116,225	93,137,341	52,469,720
January 1, 1887	249,683,647	117,246,670	71,259,563	61,177,409
July 1, 1887	266,909,117	142,118,017	69,363,933	55,506,147
October 1, 1887	273,600,157	154,354,826	58,688,970	60,616,361

SUBSIDIARY SILVER COINAGE.

The silver bullion available for subsidiary silver coinage on hand July 1, 1886, was 4,871.54 standard ounces, costing \$5,868.53. All of this was at the mint at Philadelphia, and consisted of bullion resulting from the melting of worn and uncurrent silver coin transferred for recoinage, and of bullion transferred from the assay office at New York during the preceding fiscal year.

To supply the silver bullion necessary for the coinage of dimes required by the Treasury of the United States and the general public, uncurrent and worn silver coins, together with trade-dollars redeemed under the act of March 3, 1837, were transferred from time to time by direction of the Secretary of the Treasury to the mints at Philadelphia and San Francisco (principally the former) for recoinage.

The weight of metal of standard fineness contained in the coins thus transferred from the Treasury for recoinage, and cost of the metal to the several mints, are shown in the following table :

Mint.	Uncurrent coin.		Trade-dollars.		Total.	
	Standard ounces.	Cost.	Standard ounces.	Cost.	Standard ounces.	Cost.
San Francisco .	31, 999. 36	\$39, 812. 60	524, 636. 70	\$603, 000. 00	556, 636. 06	\$642, 812. 60
Philadelphia . .	571, 725. 79	711, 322. 91	2, 475, 462. 00	2, 844, 813. 00	3, 047, 187. 79	3, 556, 135. 91
Total	603, 725. 15	751, 135. 51	3, 000, 098. 70	3, 447, 813. 00	3, 603, 823. 85	4, 198, 948. 51

In addition to the transfer above stated there was transferred from the assay office at New York to the mint at Philadelphia, for subsidiary silver coinage, 31,473.49 ounces of standard silver bullion, costing \$31,473.49. These amounts, with the balance on hand July 1, 1886, make the total silver bullion available at the mints during the year for subsidiary silver coinage 3,635,297.34 standard ounces, costing \$4,230,422.

* * * * *

The subsidiary silver coin manufactured during the fiscal year was of the following denominations and values :

Denomination.	Value.
Half-dollars	\$2, 915. 50
Quarter-dollars	1, 457. 75
Dimes	1, 095, 279. 50
Total	1, 099, 652. 75

The seignorage upon the subsidiary silver coinage executed during the year was as follows :

From recoinage of half and quarter-dollars coined prior to 1853, and of silver dollars coined prior to 1873 transferred, as uncurrent coin, for recoinage.....	\$1, 130. 65
From trade dollars transferred.....	23, 423. 50
From silver bullion purchased	7, 150. 79
Total.....	31, 704. 94

The amount and cost of silver bullion on hand at the mints at Philadelphia and San Francisco available, June 30, 1887, for subsidiary silver coinage, are shown in the following table:

Character.	Mints.				Total.	
	Philadelphia.		San Francisco.			
	Standard ounces.	Cost.	Standard ounces.	Cost.	Standard ounces.	Cost.
Of worn and uncurrent silver coins . . .	.07	\$0.09			.07	\$0.09
Trade-dollar bullion	2,268,898.25	2,607,426.68	484,449.20	\$556,809.82	2,753,347.43	3,164,236.50
Bullion transferred ..	2,975.48	2,975.48			2,975.48	2,975.48
Total	2,271,873.80	2,610,402.25	484,449.20	556,809.82	2,756,323.00	3,167,212.07

SEIGNORAGE ON SILVER COINAGE.

The seignorage, or immediate gross profit, on the coinage of silver dollars, that is, the difference between the cost of the bullion and the nominal value of the coins, during the fiscal year 1887, was \$7,923,558.61.

The seignorage on subsidiary coin manufactured during the year was \$31,704.94, of which \$1,130.65 was gained from the recoinage of old subsidiary coins in the Treasury.

The total seignorage on the silver coinage during the fiscal year was \$7,955,263.55.

As stated in my last fiscal report,* the balance of silver profits remaining in the coinage mints on the 1st July, 1886, amounted to \$553,201.44.

Adding to this the seignorage of the year, the total gross silver profits to be accounted for by the mints is \$8,508,464.99.

Of this there was paid for expenses of distributing silver coin \$35,059.03, and reimbursed for wastage and loss on sale of sweeps \$20,294.88.

There was deposited in the Treasury of the United States \$8,302,465.13, leaving in the mints at Philadelphia, San Francisco, and New Orleans on June 30, 1887, the sum of \$150,645.95.

This balance has since been covered into the Treasury.

The usual annual statement of the seignorage at each institution on the manufacture of standard silver dollars and of subsidiary silver coin separately, as well as the disposition of the profits, will be found in the Appendix.

The seignorage on the coinage of silver at the mints of the United States from July 1, 1878, to the close of the fiscal year ended June 30, 1887, has amounted to \$39,057,566.90.

Adding the balance of silver profits in the mints on the 1st July, 1878 (the beginning of the fiscal year following the passage of the act providing for the coinage of the silver dollar), \$424,725.47; and also the sum of \$9,237.54 refunded by Adams Express Company for overcharges in bills for shipping silver dollars; and the further sum of \$4,560.30, profits from surplus silver bullion and from adjustments of silver values, not strictly seignorage on silver coinage, but carried to the credit of

* Vide pp. 18 and 98.

the silver profit fund; makes a total of \$39,496,090.21 of silver profits since that period to be accounted for.

Of this the sum of \$686,600.68 has been paid for expenses of distributing silver coins, including \$9,237.54 afterwards refunded by the express company, as above explained.

The further sum of \$208,211.90 has been reimbursed for wastage incurred in the coinage of silver dollars and for loss on the sale of sweeps attending that coinage.

The net profit, including the balance in the mints on the 1st July, 1878, on the manufacture of silver coins for the nine years ended June 30, 1887, amounted to \$38,601,277.63.

Of this there has been deposited in the Treasury of the United States by covering warrants prior to the close of the fiscal year ended June 30, 1887, the sum of \$38,450,631.68. The balance, \$150,645.95, in the mints at Philadelphia, San Francisco, and New Orleans, on the 30th day of June, 1887, has since been covered into the Treasury, as shown by certificates of deposit enumerated in the statement of seignorage in the Appendix.

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MINOR COINAGE DURING FISCAL YEAR 1887.

On the 30th June, 1886, the amount of minor coin in the Treasury, as shown by the statement of assets and liabilities, had been reduced to \$377,814. Of this amount over \$160,000 proved to be in 3-cent nickel pieces, for which there was no demand, and over \$60,000 in uncurrent minor coins of former issues. Thus it appears that of the sum of these coins held by the Treasury the value of over \$220,000 was unavailable.

During the year ended June 30, 1886, large orders were constantly received at the mint at Philadelphia for minor coins, all of which were returned, and the applicants informed that the coinage had been intermitted, and that application must be made to the nearest assistant treasurer of the United States.

Resumption of minor coinage having been authorized by the Secretary of the Treasury, it was recommenced in September, 1886.

During the fiscal year ended June 30, 1887, the demand for minor coins was by far the largest in the history of the mint. The mint at Philadelphia, to which this class of coinage is limited by section 3528 of the Revised Statutes, has since been taxed to its utmost capacity to meet the demand from all parts of the United States, including many where minor coins had never before been in general use.

In order to avoid as far as practicable the purchase of new material, and to relieve the Treasury of an accumulation of uncurrent minor coins of former issues, together with pieces unfit for circulation, and nickel 3-cent pieces, the nominal value of \$224,445.07 in these old coins was transferred to the mint at Philadelphia. This material, together with \$3,754.94 worth of old minor coins exchanged for new, was used in the coinage of 1-cent bronze and 5-cent nickel pieces.

In the bill approved August 4, 1886, an appropriation of \$4,000 was made by Congress to pay the loss on the above stated recoinage of uncurrent minor coins in the Treasury.

The value of the several denominations of minor coins transferred by the Treasurer for recoinage, and received in exchange by the superin-

tendent of the mint at Philadelphia, is shown in the accompanying statement:

Denominations.	Transferred from Treasury of United States.	Exchanged by the superintendent of the mint.	Total.
In nickel 1-cent pieces	\$15,100.42	\$583.63	\$15,680.05
In bronze 1-cent pieces	9,003.49	444.40	9,449.89
In bronze 2-cent pieces	25,541.64	1,059.94	26,601.58
In nickel 3-cent pieces	160,306.77	239.07	160,546.74
In nickel 5-cent pieces	11,490.75	1,425.00	15,915.75
Total	224,445.07	3,754.94	228,200.01

The 1-cent and 2-cent bronze pieces were recoined into 1-cent bronze pieces, and the copper-nickel 1-cent, and the 3-cent, and 5-cent nickel pieces were used in the coinage of new 5-cent nickel pieces.

The amount and cost to the mint of minor coins available for recoinage was	\$228,200.01
In order to use the 1-cent nickel pieces it was necessary to add new nickel, costing	606.35
Total for recoinage	228,806.36
Upon the recoinage of the 1-cent and 2-cent bronze pieces there was a loss of	\$2,216.24
And on the 1-cent, 3-cent, and 5-cent nickel pieces	728.60
	2,944.84

Net value of metal for recoinage	225,861.52
From which there was manufactured minor coin of the nominal value of	291,050.41
Gain on recoinage	65,188.89

As there was no demand for the 3-cent nickel pieces, as proved by the large accumulation in the Treasury, \$160,306.77, transferred for recoinage, the minor coinage was confined to 1-cent bronze and 5-cent nickel pieces. The demand for 1-cent bronze and 5-cent nickel pieces, at first sudden, has since been urgent and continuous; at times largely beyond the ability of the mint to promptly meet.

In addition to the amount, \$291,050.41, in minor coins manufactured from the coins transferred by the Treasury and received in exchange by the mint, there was manufactured from new material \$652,600.24 of minor coins.

The minor coinage during the fiscal year was composed of the following denominations:

Denomination.	Pieces.	Value.
Bronze 1-cent pieces	39,114,754	\$391,147.54
Nickel 5-cent pieces	11,047,523	552,376.15
Nickel 3-cent pieces (proof coins)	4,232	126.96
Total	50,166,509	943,650.65

The Secretary of the Treasury was authorized by the appropriation act of August 4, 1886, also to transfer to the mint at Philadelphia any minor coins of current issues fit for circulation, to be cleaned and re-issued, and an appropriation of \$5,000 was made to pay the expenses of

distribution of the coins after cleaning. The following table shows the values and denominations of coins accordingly transferred to the mint for cleaning and reissue:

Denomination.	Value.
In 1-cent bronze pieces	\$43,601.13
In 5-cent nickel pieces	63,212.45
Total	106,813.58

All of these were cleaned and reissued, at a cost of \$507.50 for labor and \$4,160.17 for transportation, a total expense of \$4,667.67.

During the year old copper 1-cent pieces, of the nominal value of \$5,110.92, including \$84.93 received in exchange, were transferred to the mint and melted, and the old metal sold for \$1,136.83. The loss of \$3,974.09 was reimbursed the Treasurer from the appropriation for loss on recoinage of uncurrent and minor coins.

The accompanying table exhibits the denomination and nominal value of minor coins forwarded to each of the States and Territories during the fiscal year ended June 30, 1887:

State or Territory.	1-cent bronze.	5-cent nickel.	State or Territory.	1-cent bronze.	5-cent nickel.
Alabama	\$25.00	\$5,375.00	Missouri	\$7,650.00	\$40,490.00
Arkansas	20.00	890.00	New York	128,125.00	73,870.00
Arizona	20.00		North Carolina	1,035.00	1,290.00
California	1,215.00	11,585.00	New Jersey	12,965.00	11,835.00
Colorado	105.00	6,090.00	New Hampshire	800.00	2,600.00
Connecticut	6,230.00	6,010.00	New Mexico		400.00
Delaware	385.00	950.00	Nebraska	2,710.00	14,865.00
District of Columbia	200.00	300.00	Ohio	29,015.00	34,990.00
Dakota	1,590.00	3,640.00	Oregon	20.00	3,510.00
Florida	190.00	840.00	Pennsylvania	25,500.00	45,045.00
Georgia	490.00	3,020.00	Rhode Island	6,950.00	3,100.00
Indiana	10,669.37	18,710.00	South Carolina	800.00	2,665.00
Iowa	8,330.00	11,970.00	Texas	150.00	7,320.00
Illinois	51,831.00	68,355.00	Tennessee	1,280.00	15,690.00
Idaho		80.00	Utah		1,320.00
Kentucky	1,775.00	12,950.00	Virginia	3,060.00	5,540.00
Kansas	4,440.00	8,720.00	Vermont	1,370.00	900.00
Louisiana	400.00	6,510.00	West Virginia	1,235.00	2,380.00
Michigan	17,840.00	11,788.00	Wisconsin	7,230.00	10,755.00
Massachusetts	38,815.00	30,210.00	Washington Terri- tory		300.00
Minnesota	10,405.00	13,615.00	Wyoming		260.00
Maine	1,325.00	1,215.00	Total	400,510.37	544,686.00
Mississippi	25.00	250.00			
Montana		2,020.00			
Maryland	14,270.00	22,070.00			

RECAPITULATION.

Denomination.	Pieces.	Value.
One-cent pieces	40,051,037	\$400,510.37
Five-cent pieces	10,803,729	544,686.00
Total	50,844,757	\$945,196.37

From the above table it will be seen that minor coins were shipped from the mint to every State and Territory except Nevada, Alaska, and the Indian Territory.

A large stock of 1-cent blanks, purchased prior to the suspension of the coinage in March, 1885, was soon exhausted, when an additional stock of blanks was procured under contract.

There was on hand at the mint at Philadelphia a quantity of English and German nickel, some 2,000 pounds, which had been purchased in 1884 for the 5-cent nickel coinage. The price paid for this nickel was 84 cents per pound, the lowest rate at which it was offered at that time. This nickel having proved so unmalleable as to delay and impede coinage operations very seriously, it was found expedient to have it cut into blanks, as well as treated, outside the mint. A contract was accordingly made with Mr. Joseph Wharton, of Philadelphia, to convert this nickel into 5-cent blanks within the legal tolerance of 3 grains per piece and of 1 per cent. of pure nickel, at 25 cents per pound for each pound of blanks accepted.

It subsequently became necessary to procure additional planchets for the 5-cent nickel coinage. Proposals were therefore invited by public advertisement. A contract for the same was awarded to the Benedict & Burnham Manufacturing Company, of Waterbury, Conn., for 20,000 pounds at the rate of 37 $\frac{1}{2}$ cents per pound.

Every precaution was observed by the mint before accepting these blanks as delivered to secure their conformity to legal requirements.

Early in December, 1886, orders for minor coins were so far beyond the capacity of the mint to promptly supply that the superintendent was instructed to scale one-half all orders in excess of \$100, and to offer applicants the option of the balance of orders to be supplied as early as practicable, with the alternative of a return of remittances for orders not filled. This was necessary in order to supply impartially, and as early as practicable, applicants from all sections with at least a portion of their requisitions.

There is here for the first time presented a table showing the value of the different denominations of minor coins issued from the mint at Philadelphia since its establishment, the amount melted down, and the amount outstanding.

It is proper to remark that of the minor coins shown in this table as outstanding, many pieces of the older issues have doubtless either left the country or been destroyed by individuals, or otherwise retired from use as coin.

For instance, it will be noticed that of the old copper half-cents issued from the mint, \$39,926.11 in value, none are reported as having been melted, yet it is doubtful whether any considerable number of them are in existence, except as curiosities or in coin-collections. These have not been included in the total minor coins outstanding. So, too, of the older copper coins which have not since been remelted by the mint, 119,014,574 pieces, representing a value of \$1,190,145.74. These are of a kind rarely seen in circulation.

While this statement may not show with accuracy the previous stock of token coins in the country, it is believed that so far as the current issues are concerned—bronze 1-cent piece and nickel 3-cent and 5-cent pieces—it does not fail to exhibit approximately the stock of such coins in circulation.

Section 3587 of the Revised Statutes provides that "the minor coins of the United States shall be a legal tender at their nominal value for any amount not exceeding 25 cents in any one payment." The minor

coins authorized by the act of February 12, 1873, are the 1-cent bronze and the 3 and 5-cent nickel pieces.

STATEMENT SHOWING BY DENOMINATION THE SEVERAL TYPES OF MINOR COINS STRUCK AND REMELTED FROM THE ORGANIZATION OF THE MINT, AND THE AMOUNT OUTSTANDING JUNE 30, 1887.

Denomination.	Coined.	Remelted.	Outstanding June 30, 1887.
Copper cents.....	\$1,562,887.44	\$372,741.70	\$1,190,145.74
Copper half cents.....	*39,926.11		
Copper nickel cents.....	2,007,720.00	735,610.30	1,272,103.70
Bronze cents.....	4,319,275.48	24,517.11	4,294,758.37
Bronze 2-cent pieces.....	912,020.00	292,123.08	619,896.92
Nickel 3-cent pieces.....	903,705.00	175,541.44	728,163.56
Nickel 5-cent pieces.....	8,691,671.75	61,934.00	8,629,737.75
Total.....	18,437,205.78	1,662,478.63	16,734,801.04

*There is no record of the melting at the mint of any old copper half cents, but it is believed that few, if any, are in circulation.

APPROPRIATIONS AND EXPENDITURES.

The amount specifically appropriated for the support of the mints and assay offices of the United States for the fiscal year 1887 was \$1,146,739.20, including a special appropriation of \$54,639.20 for the renewal of the steam-power plant of the mint at Philadelphia.

Of the above specific appropriation there was expended \$988,399.31.

In addition, there was expended from the general appropriation for the coinage of silver dollars* the sum of \$201,110.02. Of this sum \$200,189.02 was expended by the mints, and \$921 by this Bureau; the latter for daily quotations by telegraph of the price of silver in London.

For the service of the mints and assay offices, including the cost of the mandatory coinage of the silver dollar, the total expenditure during the fiscal year ended June 30, 1887, was \$1,189,509.33.

The appropriations and expenditures are exhibited in the following table:

APPROPRIATIONS, 18-7.

Institutions.	Salaries.	Wages.	Contingent.	Renewal of steam-power plant.	Coinage of silver dol- lars, act of February 28, 1878 (in- definite).	Total.
<i>Coinage mints.</i>						
Philadelphia.....	\$41,550.00	\$293,000.00	\$100,000.00	\$54,639.20		\$489,189.20
San Francisco.....	41,900.00	170,000.00	40,000.00			251,900.00
Carson.....	29,550.00	60,000.00	25,000.00			114,550.00
New Orleans.....	31,950.00	74,000.00	35,000.00			140,950.00
<i>Assay offices.</i>						
New York.....	39,250.00	25,000.00	10,000.00			74,250.00
Denver.....	10,950.00	14,000.00	6,000.00			30,950.00
Helena.....	7,700.00	12,000.00	6,000.00			25,700.00
Boise.....	3,000.00		5,000.00			8,000.00
Charlotte.....	2,750.00		2,000.00			4,750.00
Saint Louis.....	3,500.00		3,000.00			6,500.00
Total.....	212,100.00	618,000.00	232,000.00	54,639.20		1,146,739.20

* Act of February 28, 1878.

EXPENDITURES, 1887.

<i>Coinage mints.</i>						
Philadelphia.....	\$40,605.69	\$202,379.88	\$86,115.47	\$11,464.27	\$147,300.88	\$577,960.19
San Francisco.....	41,850.56	169,070.88	36,420.23		81.84	247,444.51
Carson.....	11,783.62	17,809.00	2,334.14			32,636.76
New Orleans.....	31,811.29	73,907.58	28,310.60		52,746.30	186,895.77
<i>Assay offices.</i>						
New York.....	30,202.45	23,261.00	9,581.12			72,144.57
Denver.....	10,629.34	13,248.66	5,112.81			28,990.81
Helena.....	7,700.00	11,821.25	5,936.70			25,517.95
Boise.....	3,000.00		4,916.02			7,916.02
Charlotte.....	2,750.00		1,555.83			4,315.85
Saint Louis.....	3,478.18		1,861.12			5,339.30
Total.....	192,907.13	601,787.25	182,240.60	11,464.27	200,182.02	1,188,588.33

Of the amount appropriated for the support of the mints and assay offices during the year there remained unexpended the sum of \$153,339.89, as exhibited in the following table:

Institutions.	Salaries.	Wages.	Contingent expenses.	Renewal of steam-power plant.
<i>Coinage mints.</i>				
Philadelphia.....	\$884.31	\$620.12	\$13,884.53	\$13,174.03
San Francisco.....	43.44	920.12	3,573.77	
Carson.....	17,706.38	42,101.00	22,045.60	
New Orleans.....	108.71	2.42	6,660.40	
<i>Assay offices.</i>				
New York.....	47.55	1,630.00	418.88	
Denver.....	320.06	751.34	687.19	
Helena.....			83.38	
Boise.....		178.75	3.30	
Charlotte.....			434.15	
Saint Louis.....	21.82		1,138.58	
Total.....	10,102.87	46,212.75	49,759.34	43,174.93

The following comparative table exhibits the expenditures on account of the mint service during the years 1886 and 1887:

Appropriations.	1886.	1887.
Salaries.....	\$189,331.48	\$192,907.13
Wages of workmen.....	593,865.07	601,787.25
Contingent expenses.....	164,182.47	*193,704.93
Standard silver dollar.....	119,976.00	200,189.02
Total.....	1,067,356.02	1,188,588.33

*Includes \$11,464.27 expended from appropriation for renewal of steam power plant at Philadelphia.

The expenses of the Bureau of the Mint, consisting of salaries of the Director and the clerical force, expenditures for examination of mints and for annual settlements, for books and incidental expenses, for the collection of the statistics of the production of the precious metals, and for the support of the laboratory in which the monthly coinage of the mints is tested, amounted to \$33,091.97.

The appropriations and expenditures for the above purpose, as well as a comparison with the fiscal year 1886, are exhibited in the following table :

Appropriations.	1886.		1887.	
	Appropriations.	Expenditures.	Appropriations.	Expenditures.
Salaries of officers and clerks.....	\$28,940.00	\$28,500.00	\$28,024.93	\$27,958.27
Examinations of mints, etc.....	2,500.00	2,417.31	2,300.00	1,349.31
Collecting mining statistics.....	4,000.00	2,153.77	4,000.00	2,290.01
Laboratory.....	1,000.00	337.85	1,000.00	999.70
Books, pamphlets, etc.....	1,000.00	998.53	500.00	494.68
Total.....	37,440.00	34,407.46	36,024.93	33,091.97

The appropriations for the support of the mints and assay offices for the current fiscal year (1888) amount to \$1,094,500, against \$1,146,739.20 for the fiscal year 1887.

The appropriations for the fiscal year 1887-'88 are as follows:

Institutions.	Salaries.	Wages of workmen.	Contingent expenses.	Repairs of buildings.	Total.
<i>Coinage mints.</i>					
Philadelphia.....	\$41,550	\$203,000	\$100,000	.....	\$434,550
San Francisco.....	41,900	170,000	40,000	.....	251,900
Carson.....	29,550	60,000	25,000	.....	114,550
New Orleans.....	31,950	74,000	35,000	.....	140,950
<i>Assay offices.</i>					
New York.....	39,250	25,000	10,000	.....	74,250
Denver.....	10,950	14,000	6,000	\$2,000	32,950
Helena.....	7,700	12,000	6,000	.....	25,700
Boisé City.....	3,000	.....	5,000	1,000	9,000
Charlotte.....	2,750	.....	2,000	.....	4,750
Saint Louis.....	3,500	.....	2,400	.....	5,900
Total.....	212,100	648,000	231,400	3,000	1,094,500

EARNINGS AND EXPENSES OF THE REFINERIES OF THE COINAGE MINTS AND OF THE ASSAY OFFICE AT NEW YORK.

Under the provision of law (par. 8, chap. 327, vol. 1, Supplement to Revised Statutes) which requires that refining and parting of bullion shall be carried on at the mints of the United States and at the assay office at New York, and that the charges collected from depositors for these operations shall be used to pay the expenses thereof, the refineries of the mints at Philadelphia, San Francisco, Carson, and New Orleans and at the assay office at New York have been in operation during the past year.

The charges collected from depositors during the year for this purpose amounted to \$143,251.32 and the expenditures to \$165,837.02.

The expenses exceeded the receipts by \$22,585.70.

The amount received by the assay office at New York from the sale of blue vitriol and spent acid from its refinery during the fiscal year 1887 amounted to \$12,760.74.

This is properly an earning of the refinery. Prior to the fiscal year 1886 such receipts were used to offset the expenses of the refinery.

As mentioned in my last fiscal report,* the First Comptroller ruled that the proceeds of the sale of blue vitriol and spent acid from the Government refineries could not be used, as had been the practice, in offsetting the payments for acids, but should be covered into the Treasury as a miscellaneous receipt, as from the sale of old material, under construction of section 3618 Revised Statutes.

Deducting the amount realized from these sales by the assay office at New York, the net expenditures of the refinery were \$153,076.28.

It will be seen that the net expenses exceeded the earnings by \$9,824.96. It is impossible to forecast with accuracy the probable expenses of the year. They depend, as do the receipts, largely on the amount and character of the deposits.

The receipts from these sources, however, since the 1st July, 1876, when the Government refineries were required to be self-supporting, have exceeded the earnings by \$185,965.86, the amount to the credit of the appropriation for parting and refining bullion on the 1st July, 1887.

Under a separate heading, among several measures for which new legislation seems to be required, I have reprinted from Ex. Doc. 96, H. R., Forty-ninth Congress, second session, a proposed amendment of the Revised Statutes (Sup., 1, par. 8, chap. 327), drawn so as to provide for the future crediting of all earnings of refineries against expenditures.

The only alternative from such an amendment is an eventual increase of charges for parting and refining at the several mints and at the assay office at New York. From such an increase would follow an entire change in the well-established practice of the Mint service.

The charges collected at each of the institutions for parting and refining bullion, and the amount expended at each during the fiscal year, as well as the net expenditures, after deducting the amount received for blue vitriol and spent acid sold during the year, are exhibited in the following table :

Institutions.	Charges collected.	Gross expenditures.	Net expenditures.
Mint at Philadelphia	\$14,980.20	\$6,611.27	\$6,611.27
Mint at San Francisco	51,288.02	58,902.60	58,902.60
Mint at Carson	1,270.77	3,682.99	3,682.99
Mint at New Orleans	548.53	48.14	48.14
Assay office at New York	75,163.80	96,592.02	83,831.28
Total	143,251.32	165,837.02	153,076.28

EARNINGS AND EXPENDITURES OF THE MINTS AND ASSAY OFFICES.

The usual table, exhibiting in detail the earnings from all sources, and the expenditures and losses of all kinds at the mints and assay offices of the United States during the fiscal year 1887, will be found in the Appendix.

The total earnings amounted to \$8,842,819.70, and the total expenditures and losses of all kinds to \$1,437,432.95. The profits from operations on bullion during the past year amounted to the large sum of \$7,405,386.75.

A large portion of these earnings consisted of seignorage on the manufacture of silver and minor coins.

CLASSIFIED STATEMENT OF EXPENDITURES OF THE MINTS AND ASSAY OFFICES OF THE UNITED STATES, 1887.

For the first time there was presented in my fiscal report of last year

* Vide p. 7.

a statement exhibiting the expenditures of the coinage mints and of the assay office at New York, classified similar to the business of private manufacturing establishments.

The accounts are now so kept in all of the institutions under the control of this Bureau that cost sheets can be prepared showing the amount expended for each class of supplies and for each department of the several institutions.

The following table is a consolidation of the tabular statements of the various institutions. It exhibits the total expenditures for each class of supplies as well as the other expenses of the mint service for the fiscal year 1887:

Articles.	Ordinary.	Refinery.	Total.
Acids.....	\$6,060.13	\$35,011.64	\$41,071.77
Assayer's materials.....	1,834.12	63.18	1,897.30
Belting.....	520.42	15.64	536.06
Charcoal.....	5,560.53	1,317.89	6,878.42
Chemicals.....	3,624.43	295.55	3,919.98
Coal.....	26,541.37	5,104.28	31,739.65
Coke.....	3,741.66	.....	3,741.66
Copper.....	25,125.82	8,524.80	33,650.62
Crucibles.....	8,956.29	3,456.00	12,413.19
Dry goods.....	3,121.94	423.98	3,550.92
Fluxes.....	3,647.86	1,298.76	4,946.62
Freight and drayage.....	1,350.22	714.14	2,064.36
Gas.....	9,475.75	716.19	10,191.94
Gloves and gauntlets.....	6,875.52	721.21	7,596.73
Hardware.....	2,070.10	466.00	2,535.10
Ice.....	2,228.62	48.23	2,276.85
Iron and steel.....	552.68	101.90	654.67
Labor and repairs.....	15,274.82	6,457.66	21,732.48
Loss on sale of sweeps.....	788.42	537.37	1,325.79
Lumber.....	3,250.60	928.59	4,179.19
Machinery and appliances.....	7,027.40	100.38	7,227.78
Metal work and castings.....	2,911.35	2,264.65	5,176.00
Oils.....	2,349.30	45.00	2,394.30
Salt.....	22.75	232.30	255.05
Sewing.....	2,301.44	151.70	2,453.14
Stationery, printing, and binding.....	2,300.14	.....	2,300.14
Sundries.....	13,122.86	1,217.71	14,340.57
Telegraphing.....	779.78	.....	779.78
Washing.....	940.03	.....	940.03
Barrels and cooperage.....	.....	865.50	865.50
Water.....	1,605.03	410.10	2,015.13
Wood.....	11,732.84	628.23	12,361.07
Zinc.....	2.00	3,476.27	3,478.27
Advertising.....	166.10	.....	166.10
Doring artesian well, New York.....	3,130.01	.....	3,130.01
Adjusting weights.....	158.50	.....	158.50
Lead.....	.....	6,434.01	6,434.01
Electric lighting.....	1,182.81	.....	1,182.81
Cutting silver disks.....	59.85	.....	59.85
Renewal of steam-power plant, Philadelphia.....	11,464.27	.....	11,464.27
Manufacture of 5-cent nickel blanks.....	19,498.50	.....	19,498.50
Salaries.....	192,907.13	.....	192,907.13
Wages of workmen.....	784,227.88	83,599.17	867,827.05
	1,188,868.33	163,837.02	1,352,705.35

OPERATIONS.

Bars manufactured:	
Gold	\$58, 188, 953. 66
Silver	6, 481, 011. 25
Total	64, 670, 504. 91
Coinage executed:	
Gold	\$22, 393, 270. 00
Silver	34, 586, 482. 75
Minor	943, 650. 63
Total	57, 703, 413. 40
Refinery earnings	\$143, 258. 52

SUMMARY OF THE OPERATIONS OF THE MINTS AND ASSAY OFFICES.

The value of the gold and silver deposited at the mints and assay offices of the United States during the fiscal year 1887 was \$131,635,-\$11.34. This aggregate, however, but partially measures the successive operations upon the bullion represented by this value. For example, it may be interesting to show the operations by the melters and refiners of the four mints and of the assay office at New York, as measured by the value of the bullion successively operated upon. These may be stated as follows:

Metal.	Standard ounces.	Value.
Gold	5, 919, 378	\$110, 137, 265
Silver	70, 764, 794	82, 344, 487
Total value		192, 481, 752

The operations of the coinage departments of the mints were as follows:

Metal.	Standard ounces.	Value.
Gold	2, 632, 005	\$48, 967, 440
Silver	61, 806, 602	72, 025, 241
Total value		120, 992, 681

The additional sum of \$3,828,635 represents the unparted product of minor assay offices, and by them originally melted and assayed. The total value of the gold thus successively operated upon by the five institutions mentioned and by the minor assay offices was \$317,303,068, the measure of the combined operations on bullion of all the institutions of the mint service.

The wastage of the precious metals in the operations of both the coiners' and the melter-and-refiners' departments during the year was \$13,473.26. All of this operative wastage was in silver, no wastage of gold having been incurred at any of the coinage mints or at the assay office at New York during the fiscal year. That is, the difference between the amount of gold bullion charged and credited was in favor of the operative officers. Such differences arise from several legitimate sources, especially from the recovery of minute proportions of gold from silver deposits, and of silver from gold deposits, of a value insufficient

in individual deposits to pay the charges for parting. When ultimately recovered the value of such bullion inures to the benefit of the melter-and-refiner's account to offset unavoidable wastage.

Of the silver wastage, all, except \$229.43 incurred at the mint at San Francisco, was at the mint at New Orleans, and principally in the melter-and-refiner's department.

In addition to the operative wastage of silver there was a loss of \$16,287.30 arising from the sale of sweeps, being the difference between the assay value of the gold and silver contained in them and the amount realized from their sale, and a loss at the assay office at New York from the sale of plumbic melts, amounting to \$247.52. The total loss on the operations of gold and silver bullion at the mints and assay offices of the United States for the year was \$30,008.08.

Against this loss there was, on the other hand, an operative gain of bullion much larger than the entire loss. Surplus bullion was returned by the operative officers of the coinage mints and of the assay office at New York aggregating \$52,785.45. Gold and silver in granules and sweepings were recovered from the deposit melting rooms of the value of \$9,020.66. There was also an operative gain arising from differences in assays and charges, in favor of the small assay offices, on bullion shipped to a mint for coinage during the year, amounting to \$4,391.41. The total gains from operations on bullion (not including, of course, any of the seignorage or proceeds of sales of old material or by-products or charges collected) was \$66,197.52, against a total operative loss of \$30,008.08, a gain to the Government in melting, refining, and coining of bullion, aggregating over \$300,000,000 as stated above, of \$36,189.44.

At the close of the fiscal year the bullion and coin in the mints at Philadelphia, San Francisco, and New Orleans, and in the assay office at New York, were weighed by representatives of the Treasury Department and of the superintendents. The superintendents were found to have in their possession the values for which they were held. No illegitimate loss, so far as this Bureau is aware, has been incurred in the mint service during the year.

* * * * *

STOCK OF COIN IN THE UNITED STATES.

A table is presented herewith showing the estimate of the Bureau of the Mint of the stock of gold and silver coin in the United States at the close of the fiscal year 1887:

Items.	Gold	Silver.	Total.
Estimated circulation July 1, 1886.....	\$548,320,031	\$308,784,223	\$857,104,254
Coinage for fiscal year 1887.....	23,393,279	34,366,483	56,759,762
Net imports.....	2,311,730	409,151	2,720,880
Total.....	573,025,040	343,559,857	916,584,896
Less deposits of United States coin.....	516,984	821,941	1,338,925
Used in the arts.....	3,560,000	200,000	3,760,000
Total.....	4,016,984	1,021,941	5,038,925
Estimated circulation July 1, 1887.....	569,008,056	342,537,916	911,545,961

In addition to the gold and silver coin estimated to have been in the country on the 1st of July, 1887, there was bullion belonging to the

Government and awaiting coinage, in the mints and assay offices at that date, as follows:

Metal.	Cost.
Gold.....	\$85, 512, 270
Silver.....	10, 455, 650
Total.....	95, 967, 920

This, added to the stock of coin, gives as the total metallic stock in the United States:

Metal.	Value.
Gold.....	\$654, 520, 335
Silver.....	352, 993, 566
Total.....	1, 007, 513, 901

The method employed by this Bureau in arriving at the stock of coined money in the United States has been so fully explained in my reports for the fiscal years 1885 and 1886, and also in my special reports on the Production of the Precious Metals in the United States for the corresponding calendar years, that it will not here be necessary to enter into any extended explanation.

The starting point of the estimate of this Bureau is the stock of coin in the United States on the 1st of July, 1873, estimated by Dr. Henry R. Linderman, then Director of the Mint. As at that period there was no gold coin in active circulation in the United States (except on the Pacific coast), the estimate comprised only the metallic stock in the Treasury and in national banks, with an estimate of \$20,000,000 as the minimum in use on the Pacific coast.

The estimates from year to year have since been arrived at by adding to the stock of coin at that date the annual coinage, less the amount of United States coin withdrawn for recoinage. The annual gain or loss by import or export of United States coins has also been added or deducted each year, as the case may have been. There has also been an annual deduction for consumption of United States coins in the arts and manufactures. The estimates for these deductions have been based upon the four inquiries made by the Bureau of the Mint for the years 1880, 1881, 1883, and 1885 into the industrial employment of the precious metals in the United States.

The efforts of this Bureau to ascertain the stock of metallic money in the country have been solely directed to the total called for by official statistics. The estimate by this Bureau of the stock of coined money in the United States corresponds to such official data, not without consideration of, but without estimate for, the indefinite values corresponding to coin withdrawn from the country on the persons of travelers and not registered at the custom-houses, to coin subversively used, and to coin lost in vicissitudes both on sea and land.

These elements of uncertainty in estimates like the present have been discussed in previous reports. In the above estimate for the 1st July, 1887, no allowance has been made for the import or export of trade-dollars during the year, for the reason that the entire number supposed

to have been in the country was eliminated from the stock of coin in the estimate of the Bureau for June 30, 1884.

The deduction for United States coin used in the arts during the year is the same as for the previous fiscal year, and according to the latest inquiry made by this Bureau—namely, for the calendar year 1885, for which the consumption was estimated at \$3,500,000 of gold and \$200,000 of silver.

The ownership of the gold and silver coins, as distinguished from the location of the coin, estimated by this Bureau to have been in the country on July 1, 1887, is exhibited in the following table:

Ownership.	Gold coin.	Silver coin.			Total gold and silver coin.
		Full legal tender.	Subsidiary.	Total.	
Treasury	\$101, 143, 478	\$600, 365, 953	\$26, 977, 493	\$66, 343, 446	\$197, 486, 924
National banks	\$152, 412, 379	\$9, 878, 692	2, 813, 138	12, 691, 830	165, 104, 209
Banks other than national (values specifically reported)	\$41, 698, 535	2, 422, 970		2, 422, 970	44, 121, 505
Banks other than national (values not specifically reported) and in private hands	273, 753, 673	185, 322, 502	45, 757, 168	231, 079, 670	504, 833, 343
Total	569, 008, 065	266, 990, 117	75, 547, 799	342, 537, 916	911, 545, 981

*Gold coin in the Treasury, exclusive of outstanding gold certificates (\$91, 223, 437)

†Silver dollars in the Treasury, exclusive of outstanding silver certificates (142, 118, 017)

‡Includes gold, Treasury, and clearing house certificates (78, 318, 940)

§Includes Treasury silver certificates (3, 535, 479)

|| As partially reported to Comptroller of the Currency at close of fiscal year 1887,

VIZ:

Gold coin \$27, 015, 952

Gold certificates 837, 710

Specie, miscellaneous 13, 744, 873

\$41, 698, 535 (Total taken as gold.)

Silver coin 1, 824, 657

Silver certificates 598, 313

2, 422, 970 (Total taken as full legal tender silver.)

44, 121, 505 (Total taken as gold and silver.)

The amount of gold coin in the banks, other than national, is given as \$41,698,535, from information imparted by the office of the Comptroller of the Currency, and based upon partial returns to that office. It is not considered that these figures represent more than a fraction of the value of gold coin held by all the private and State banks and trust companies of the United States.

Of over five thousand banks, other than national, in the United States, less than two thousand made reports to the Comptroller, and by many of them the asset "cash items" is not given in detail. So far it has proved practically impossible to ascertain with accuracy the stock of coin held by banks not by law required to make official reports, but it is believed to largely exceed the figures given in the above table.

The value of the gold and silver certificates in the hands of the public has, in the above table, been deducted from the value of the coin held by the Treasury and carried to the stock of coin belonging to the public, because coin in the Treasury, applicable only to the redemption of the certificates, is practically held by the Treasury in trust for this purpose.

REPORT OF THE SECRETARY OF THE TREASURY. 117

It has been considered an improvement to separate as in the following statement of the location of the moneys of the United States as well as of the bullion in the Treasury on the 1st July, 1887, the metallic values from the values of the representative money:

FORM AND LOCATION OF THE MONEYS OF THE UNITED STATES AND THE BULLION AWAITING COINAGE IN THE MINTS JULY 1, 1887.

[Exclusive of minor coin and minor-coinage metal.]

	In Treasury.	In national banks.*	In other banks and general circulation.	Total.
METALLIC.				
Gold bullion	\$85,512,270			\$85,512,270
Silver bullion	4,091,414			4,091,414
Silver bullion (melted trade dollars)	6,364,236			6,364,236
Gold coin	192,368,915	\$98,137,439	\$278,501,711	569,008,065
Silver dollars	211,483,970	6,343,213	40,162,934	268,990,117
Subsidiary silver coin	26,977,493	2,813,138	45,757,168	75,547,799
Total	526,798,298	107,293,790	373,421,813	1,007,513,901
REPRESENTATIVE.				
Legal-tender notes	\$28,783,796	74,477,342	243,419,878	346,681,016
Old demand notes			57,130	57,130
Certificates of deposit	310,000	7,810,000	960,000	9,080,000
Gold certificates	30,261,380	54,274,940	36,950,497	121,486,817
Silver certificates	3,425,133	3,535,479	138,582,538	145,542,150
National-bank notes	197,046	22,962,737	250,058,005	270,217,788
Fractional paper currency	2,360	564,266	6,380,332	6,946,964
Total	62,979,721	163,624,764	682,408,380	909,012,865

*The statement of the amounts in national banks is of date August 1.

†Includes \$24,644,000 clearing-house gold certificates.

‡Includes \$3,770,000 held for the redemption of certificates of deposit for legal-tender notes under act June 8, 1872.]

The following statement, based on net coinage, imports, and exports of United States coin, with pro rata reduction for consumption in the arts from the 1st July to the 1st November, approximately exhibits the stock of gold and silver coin in the United States at the date of this report:

Date.	Gold coin.	Silver coin.			Total gold and silver coin.
		Full legal tender.	Subsidiary.	Total silver.	
Last official statement July 1, 1887.....	\$569,008,065	\$260,990,117	\$75,547,799	\$342,537,916	\$911,545,981
Gain subsequent to above statement (estimate) ...	5,919,808	10,120,040	210,387	10,330,427	16,250,235
Estimate for November 1, 1887....	574,927,873	277,110,157	75,758,186	352,868,343	927,796,216

In the first report made by me—namely, for the fiscal year 1885—I reduced the estimate of my predecessor of the stock of gold coin in the United States on the 1st of July, 1884, by \$30,000,000, a reduction representing the probable amount of United States gold coin used in the arts and manufactures from July 1, 1873, to June 30, 1880. No allowance had been made for such employment in the estimates of the Bureau for the seven years from 1874 to 1880. The first allowance of this kind was made in the estimate of June 30, 1881. This was \$3,300,000 for the fiscal year 1881.

In the second fiscal report made by me—namely, for the year 1886 (see page 46)—a further deduction of \$15,669,981 from the estimated stock of gold coin in the country June 30, 1885, was made for bullion in the Treasury on the 1st of July, 1873, included in previous estimates of gold coin. I also corrected an error of \$4,654,714 in the statement of gold exports of 1874. There was thus made a reduction of \$20,324,695. This, with the previous reduction of \$30,000,000 for employment of gold coin in the arts, as explained above, made a total reduction in the estimated stock of gold coin in the United States of \$50,324,695.

I now take occasion to present revised estimates of the stock of gold coin in the United States at the close of each fiscal year since 1873, as well as of bullion in mints and in the assay office at New York and in the subtreasury at New York at those dates:

REVISED ESTIMATE OF STOCK OF METALLIC MONEY IN THE UNITED STATES
AT THE CLOSE OF EACH FISCAL YEAR FROM 1873 TO 1887.

Date.	GOLD.				Remarks.
	Coin.	Bullion in mints.	Fine bars in sub-treasury, New York.	Total coin and bullion.	
June 30, 1873	\$119,830,019	\$15,060,981	.....	\$135,000,000	Estimate of Director Linderman.
1874	137,708,051	9,671,442	.....	147,379,493	Estimate of Director Burchard, less deductions for employment in arts and error.
1875	111,507,562	6,250,631	\$3,367,713	121,134,906	Do.
1876	120,368,683	6,320,611	3,367,713	130,056,907	Do.
1877	156,456,111	7,677,648	3,367,713	167,501,472	Do.
1878	205,704,875	7,495,102	.....	213,199,977	Do.
1879	240,486,003	5,275,834	.....	245,741,837	Do.
1880	308,633,996	40,723,426	2,483,784	351,841,206	Do.
1881	389,452,058	86,548,690	2,483,784	478,484,538	Do.
1882	450,557,490	53,700,225	2,500,000	506,757,715	Do.
1883	486,930,090	55,801,961	.....	542,732,063	Do.
1884	501,307,747	44,193,050	.....	545,500,797	Do.
1885	521,849,941	66,847,095	.....	588,697,036	Estimate of Director Kimball.
1886	548,320,031	42,454,430	.....	590,774,461	Do.
1887	509,008,065	85,512,270	.....	634,520,335	Do.

REVISED ESTIMATE OF STOCK OF METALLIC MONEY IN THE UNITED STATES
AT THE CLOSE OF EACH FISCAL YEAR FROM 1873 TO 1877—Cont'd.

Date.	SILVER DOLLARS.			Subsidiary silver coin.	Remarks.
	Coin.	Bullion in mints.	Total coin and bullion.		
June 30, 1873	.....	\$1, 149, 305	\$1, 149, 305	\$5, 000, 000	Estimate of Director Linderman.
1874	.....	1, 592, 261	1, 592, 261	8, 763, 217	Estimate of Director Burchard, less deduc- tions for employ- ment in arts and er- ror.
1875	.....	2, 742, 548	2, 742, 548	16, 625, 447	Do.
1876	.....	3, 997, 258	3, 997, 258	82, 418, 784	Do.
1877	.....	4, 626, 921	4, 626, 921	*51, 837, 506	Do.
1878	\$8, 573, 500	7, 096, 579	16, 269, 079	*71, 778, 828	Do.
1879	25, 801, 000	5, 473, 266	41, 276, 266	*76, 249, 985	Do.
1880	63, 734, 750	5, 925, 058	69, 660, 408	*78, 802, 270	Do.
1881	91, 372, 705	8, 924, 378	95, 297, 083	*80, 087, 061	Do.
1882	119, 144, 780	3, 643, 764	122, 788, 544	*80, 428, 580	Do.
1883	147, 255, 899	4, 791, 786	152, 047, 085	*80, 900, 300	Do.
1884	175, 355, 829	4, 950, 785	180, 306, 614	175, 261, 528	Do.
1885	203, 684, 881	4, 634, 586	208, 638, 967	74, 930, 820	Estimate of Director Kimball.
1886	223, 723, 286	3, 468, 620	237, 191, 906	75, 060, 937	Do.
1887	206, 990, 117	10, 455, 650	277, 445, 767	75, 547, 799	Do.

Includes trade-dollars. † Trade-dollars estimated to be in the country (\$6,000,000) deducted.

I am, very respectfully, yours,

JAMES P. KIMBALL,
*Director of the Mint.*By CHARLES S. FAIRCHILD,
Secretary of the Treasury.

REPORT OF THE COMMISSIONER OF INTERNAL REVENUE.

TREASURY DEPARTMENT,
OFFICE OF INTERNAL REVENUE,
Washington, D. C., November 1, 1887.

1: The following report relating to the operations of this Bureau during the fiscal year ended June 30, 1887, and containing certain additional information concerning the work done during the first quarter of the current fiscal year, is respectfully submitted.

The appendix to the bound volume of this report contains a number of tables, which have been carefully prepared, and are printed in the following order, viz:

Table A, showing the receipts from each specific source of revenue, the amounts refunded in each collection district, State, and Territory of the United States, for the fiscal year ended June 30, 1887.

Table B, showing the number and value of internal-revenue stamps issued from the office of the Commissioner; the receipts from the sale of supplementary stamps for validating unstamped instruments, and the

number and value of stamps for special taxes, tobacco, cigars, cigarettes, snuff, distilled spirits, fermented liquors, and oleomargarine, issued monthly to collectors, during the fiscal year ended June 30, 1887.

Table C, showing the percentages of receipts from the several general sources of revenue in each State and Territory of the United States to the aggregate receipts from the same sources, by fiscal years, from July 1, 1863, to June 30, 1887.

Table D, showing the aggregate receipts from all sources in each collection district, State, and Territory of the United States, by fiscal years, from September 1, 1862, to June 30, 1887.

Table E, showing the receipts in the United States from each specific source of revenue now taxable, by fiscal years, from September 1, 1862, to June 30, 1887.

Table F, showing the ratio of receipts in the United States from specific sources of revenue to the aggregate receipts from all sources, by fiscal years, from July 1, 1863, to June 30, 1887.

Table G, showing the returns of distilled spirits, fermented liquors, manufactured tobacco, snuff, cigars, and cigarettes, under the several acts of legislation, and by fiscal years, from September 1, 1862, to June 30, 1887: also statement of the production of distilled spirits and fermented liquors in the several States and Territories, by fiscal years, from July 1, 1877, to June 30, 1887.

Table H, showing the receipts from special taxes in the several States and Territories for the special-tax year ended April 30, 1887.

Table I. Abstract of reports of district attorneys concerning suits and prosecutions under the internal-revenue laws during the fiscal year ended June 30, 1887.

Table K. Abstract of seizures of property for violation of internal-revenue laws during the fiscal year ended June 30, 1887.

COLLECTIONS FOR THE CURRENT FISCAL YEAR.

It is estimated that the sum of \$120,000,000 will be collected from the various sources of internal revenue during the current fiscal year, provided no changes are made in the rates of taxation now imposed by the internal-revenue laws.

It was estimated in my last annual report that the receipts for the fiscal year ended June 30, 1887, would be not less than \$118,000,000. The actual receipts for that period were \$118,837,301.06, exceeding the estimate by \$837,301.06.

COMPARATIVE RECEIPTS FOR THE PAST SIX FISCAL YEARS.

The total receipts from all sources of internal revenue for the fiscal year ended June 30, 1887, were \$118,837,301.06, as compared with \$116,922,869.44 for the year 1886, \$112,421,121.07 for the year 1885, \$121,590,002.83 for the year 1884, \$144,553,344.86 for the year 1883, and \$146,323,273.72 for the year 1882.

COLLECTIONS FOR FISCAL YEAR ENDED JUNE 30, 1887.

The following statements exhibit in detail the amount of internal revenue collected during the past year, and also for the first three months of the current fiscal year, the sources from which the revenue is derived, the States and districts in which the collections were made during the past year, the cost of collection, etc.

INTERNAL-REVENUE RECEIPTS DURING THE LAST TWO FISCAL YEARS.

COMPARATIVE STATEMENT SHOWING THE RECEIPTS FROM THE SEVERAL OBJECTS OF INTERNAL TAXATION IN THE UNITED STATES DURING THE FISCAL YEARS ENDED JUNE 30, 1886 AND 1887.

Objects of taxation.	Receipts during fiscal year ended June 30—		Increase.	Decrease.
	1886.	1887.		
SPIRITS.				
Spirits distilled from apples, peaches, and grapes.....	\$1,400,394.48	\$1,090,379.07	.....	\$310,015.41
Spirits distilled from materials other than apples, peaches, and grapes.....	62,365,825.13	50,551,072.50	.....	2,813,852.54
Certifiers (special tax).....	178,650.17	178,600.12	.....	2,050.05
Retail liquor-dealers (special tax).....	4,714,735.18	4,587,268.21	.....	127,466.97
Wholesale liquor-dealers (special tax).....	418,406.24	416,304.66	.....	2,101.58
Manufacturers of stills (special tax).....	1,102.90	860.86	.....	242.04
Stills and worms manufactured (special tax).....	3,000.00	2,860.00	.....	140.00
Dumps for distilled spirits intended for export.....	10,151.90	3,076.20	.....	7,075.70
Total.....	69,092,266.00	65,829,321.71	.....	3,262,944.29
TOBACCO.				
Cigars and cheroots.....	10,532,804.05	11,364,016.33	832,112.28	.....
Cigarettes.....	655,569.55	792,279.60	136,710.05	.....
Snuff.....	493,283.80	524,042.26	31,658.46	.....
Tobacco, chewing and smoking.....	14,834,095.42	15,995,019.46	1,160,924.04	.....
Dealers in leaf-tobacco (special tax).....	53,875.03	51,891.14	.....	1,984.49
Dealers in manufactured tobacco (special tax).....	1,208,529.17	1,245,412.05	36,883.48	.....
Manufacturers of tobacco (special tax).....	5,575.85	5,563.75	.....	12.10
Manufacturers of cigars (special tax).....	108,693.45	113,340.00	4,646.55	.....
Holders of tobacco (special tax).....	14,833.61	14,701.94	.....	231.67
Total.....	27,907,862.53	30,108,067.13	2,200,704.60	.....
FERMENTED LIQUORS.				
Ale, beer, lager-beer, porter, and other similar fermented liquors.....	10,157,612.87	21,387,411.79	2,229,798.92	.....
Brewers (special tax).....	180,928.89	187,352.24	423.35	.....
Retail dealers in malt liquors (special tax).....	169,502.56	177,148.13	7,645.57	.....
Wholesale dealers in malt liquors (special tax).....	162,686.97	170,275.33	7,588.36	.....
Total.....	10,676,731.29	21,922,187.49	2,245,456.20	.....
OLEOMARGARINE.				
Oleomargarine, domestic and imported.....	.....	435,924.04	435,924.04	.....
Manufacturers of oleomargarine (special tax).....	.....	31,700.00	31,700.00	.....
Retail dealers in oleomargarine (special tax).....	.....	154,924.00	154,924.00	.....
Wholesale dealers in oleomargarine (special tax).....	.....	101,400.00	101,400.00	.....
Total.....	.....	723,948.04	723,948.04	.....
BANKS AND BANKERS, NOT NATIONAL.				
Bank circulation other than national, and banks, bankers, and other parties liable on amount of any person, State bank, or State banking association, or of any town, city, or municipal corporation, paid out by them.....	.....	4,288.37	4,288.37	.....
Total.....	.....	4,288.37	4,288.37	.....
MISCELLANEOUS.				
Collections not otherwise provided for.....	32,087.17	20,283.49	.....	2,803.68
Penalties.....	194,422.45	220,204.83	25,782.38	.....
Total.....	226,509.62	240,488.32	22,978.70	.....
Aggregate receipts.....	116,902,869.44	118,837,301.06	934,431.62	.....

WITHDRAWALS FOR CONSUMPTION DURING THE LAST TWO FISCAL YEARS.

The quantities of distilled spirits, fermented liquors, manufactured tobacco, snuff, cigars, cigarettes, and oleomargarine, on which tax was paid during the last two fiscal years are as follows:

Articles taxed.	Fiscal year ended June 30—		Increase.	Decrease.
	1886.	1887.		
Number of gallons of spirits distilled from apples, peaches, and grapes	1,555,904 ^a	1,211,532	.....	344,372
Number of gallons of spirits distilled from materials other than apples, peaches, and grapes	69,295,361	66,168,819	.....	3,126,542
Number of cigars	3,510,898,488	3,784,303,443	277,406,955	.....
Number of cigarettes	1,310,961,350	1,584,503,200	273,543,850	.....
Number of pounds of snuff	6,160,047	6,561,778	395,731	.....
Number of pounds of tobacco	185,426,193	109,937,743	14,511,550	.....
Number of barrels of fermented liquors	20,710,933	23,121,526	2,410,593	.....
Number of pounds of oleomargarine	.....	21,796,202	21,796,202	.....

NOTE.—Many detailed tabular statements, omitted for want of space, may be found in the bound volumes of the Commissioner's report.

RECEIPTS BY STATES AND TERRITORIES DURING THE LAST FISCAL YEAR.

STATEMENT SHOWING THE AGGREGATE COLLECTIONS OF INTERNAL REVENUE, BY STATES AND TERRITORIES, DURING THE FISCAL YEAR ENDED JUNE 30, 1887.

States and Territories.	Aggregate collections.	States and Territories.	Aggregate collections.
Alabama.....	\$78,542.76	New Hampshire.....	\$377,562.37
Arkansas.....	97,630.38	New Jersey.....	4,566,161.56
California.....	2,081,221.57	New Mexico <i>g</i>	63,565.43
Colorado <i>a</i>	280,154.66	New York.....	15,101,262.43
Connecticut.....	481,405.47	North Carolina.....	1,950,701.71
Delaware <i>b</i>	263,297.50	Ohio.....	13,898,226.41
Florida.....	322,003.20	Oregon <i>h</i>	152,318.15
Georgia.....	336,705.86	Pennsylvania.....	8,120,262.73
Illinois.....	24,825,704.34	Rhode Island.....	226,231.11
Indiana.....	4,259,038.68	South Carolina.....	100,146.66
Iowa.....	1,951,124.89	Tennessee.....	1,012,516.65
Kansas.....	211,120.11	Texas.....	209,342.92
Kentucky.....	12,417,520.63	Vermont.....	30,119.75
Louisiana.....	543,748.98	Virginia.....	2,922,394.61
Maine.....	50,266.45	West Virginia.....	538,296.43
Maryland <i>c</i>	2,875,507.06	Wisconsin.....	3,770,964.61
Massachusetts.....	2,471,131.00	Total by States and Territories.....	118,820,523.96
Michigan.....	1,801,907.37	Cash receipts from sale of adhesive stamps.....	7,777.06
Minnesota.....	554,088.98	Aggregate receipts.....	118,827,301.06
Mississippi.....	42,608.16		
Missouri.....	7,838,789.27		
Montana <i>d</i>	101,158.38		
Nebraska <i>e</i>	2,393,404.70		
Nevada <i>f</i>	70,410.50		

a Including the Territory of Wyoming.

b Including the State of Delaware, two counties of Virginia, and nine counties of Maryland.

c Including the District of Columbia.

d Including the Territory of Idaho.

e Including the Territory of Dakota.

f Including the Territory of Utah.

g Including the Territory of Arizona.

h Including Alaska and the Territory of Washington.

COST OF COLLECTION.

The cost of collection for the past fiscal year, distributed among the different items of appropriation, was approximately as follows:

For salaries and expenses of collectors, including pay of deputy collectors, clerks, etc., and including expenses incident to enforcing the provisions of law taxing oleomargarine	\$1,807,851.61
For salaries and expenses of revenue agents, surveyors of distilleries, gaugers, storekeepers, and miscellaneous expenses	1,933,376.83
For paper for internal-revenue stamps	48,219.49
For expenses of detecting and punishing violations of internal-revenue laws	24,998.20
For salaries of officers, clerks, and employes in the office of Commissioner of Internal Revenue	250,702.74
Total	4,005,148.87

being about 3.4 per cent. of the amount collected.

The cost of collection for the year 1886 was \$4,311,802.70, which was about 3.6 per cent. of the collections for that year. The statement of cost of collection for the fiscal year 1887 does not include the cost of printing internal-revenue stamps, the appropriation for which is made directly to the Bureau of Engraving and Printing, and is not under the control of this office.

GENERAL CONDITION OF THE SERVICE.

Examinations of the offices of the several collectors of internal revenue were frequently made during the fiscal year, and it appears from the reports of such examinations that the condition of the service is good.

REDUCTION IN THE NUMBER OF INTERNAL-REVENUE DISTRICTS.

By an Executive order dated May 21, 1887, the following internal-revenue collection districts were abolished, and their territory consolidated with other districts, viz:

District of Delaware.	Fiftieth district of New York.
Second district of Illinois.	Sixth district of North Carolina.
Fourth district of Illinois.	Sixth district of Ohio.
Eleventh district of Indiana.	Nineteenth district of Pennsylvania.
Second district of Iowa.	Twenty-second district of Pennsylvania.
District of Maine.	District of Rhode Island.
Tenth district of Massachusetts.	First district of Texas.
District of Mississippi.	District of Vermont.
Fourth district of Missouri.	Fourth district of Virginia.
District of Nevada.	Third district of Wisconsin.
Third district of New Jersey.	Sixth district of Wisconsin.

The total number of districts abolished being twenty-two.

This action has very considerably lessened the cost of collecting the internal-revenue taxes, and has not in any manner been detrimental to the interest of the tax-payers, so far as this office has been informed.

MISCELLANEOUS EXPENSES.

The act of Congress approved August 7, 1882, making provision for sundry civil expenses for the year ending June 30, 1883, required the Commissioner of Internal Revenue to make a detailed statement of all

miscellaneous expenditures in the Bureau of Internal Revenue for which appropriation was made in that act. In accordance with the aforesaid requirement, I submit the following detailed statement of miscellaneous expenses incurred :

Express charges on public money forwarded by collectors and deputy collectors to depository.....	\$4, 137. 06
Telegraphing on public business.....	645. 73
Locks for distilleries.....	2, 452. 65
Hydrometers for use in gauging spirits.....	6, 544. 67
Gauging rods and sealed measures.....	94. 17
Steel dies for cancelling tobacco stamps.....	3. 30
Wax seals for sealing packages of stamps.....	14. 00
Coin scale for collector's office at St. Louis.....	75. 00
Stationery for internal-revenue officers.....	15, 124. 33
Internal-revenue record for revenue officers.....	2, 400. 12
Federal Reporter for office of Commissioner.....	10. 00
Compensation of United States attorneys in internal-revenue cases, allowed under sections 827 and 834 Revised Statutes.....	2, 985. 00
Traveling expenses of clerks, etc., under special orders of the Department.....	305. 67
Expenses of seizures and sales by collectors.....	360. 20
Total.....	35, 151. 90

REVENUE AGENTS.

Twenty revenue agents have been employed during the last fiscal year, one as chief of division in this office, twelve in charge of territorial divisions, three in the examination of the offices and accounts of collectors, and four in assisting agents in charge of divisions and on special duty.

EXPENSES OF REVENUE AGENTS.

There has been expended from the appropriation for salaries and expenses of revenue agents during the year as follows :

Aggregate salary of agents.....	\$42, 611. 00
Aggregate amount for traveling expenses.....	31, 239. 37
Stationery furnished agents.....	213. 21
Transportation over Pacific railroads.....	228. 37
Total.....	74, 291. 95

WORK OF REVENUE AGENTS.

Twelve hundred and fourteen violations of internal-revenue law have been reported by revenue agents during the year; 519 persons have been arrested on their information; property to the value of \$83,382.94 has been reported by them for seizure, and \$109,264.09 for assessments for unpaid taxes and penalties. Two hundred and eleven examinations of the accounts of collectors have been made, and the condition of the offices reported upon by agents, and ninety-eight transfers of collectors' offices under new bond, new appointment, and consolidation of districts have been made under their supervision.

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ESTIMATED EXPENSES FOR NEXT FISCAL YEAR.

I estimate the expenses of the Internal-Revenue Service for the fiscal year ending June 30, 1889, as follows.

or salaries and expenses of collectors, including pay of deputy collectors and clerks, and expense of enforcing the act of August 2, 1886, taxing oleomargarine, and the act of August 4, 1886, imposing on the Government the expense of the inspection of tobacco exported.....	\$1,800,000
or salaries and expenses of twenty revenue agents, for surveyors, for fees and expenses of gaugers, for salaries of storekeepers, and for miscellaneous expenses.....	1,950,070
or paper for internal-revenue stamps.....	60,000
or detecting and bringing to trial and punishment persons guilty of violating the internal-revenue laws, including payment for information and detection.....	50,000
or salaries of officers, clerks, and employes in the office of the Commissioner of Internal Revenue.....	265,280
Total.....	4,125,280
* * * * *	

STAMPS.

STATEMENT SHOWING NUMBER, KIND, AND VALUE OF INTERNAL REVENUE STAMPS ISSUED TO COLLECTORS DURING THE FISCAL YEAR ENDED JUNE 30, 1887.

Class of stamps.	Number.	Value.
Unpaid.....	1,482,750	\$87,049,775.00
Exportation, spirits.....	20,600	2,900.00
Other than tax-paid.....	3,768,900	
Tobacco and snuff.....	315,795,873	20,321,264.30
In-foil wrappers for tobacco issued by stamp agent at New York.....	32,555,892	163,671.16
Exportation, tobacco.....	68,000	
Cigar and cigarette.....	200,003,353	12,141,795.15
Exportation, cigars.....	3,600	
Special-tax.....	895,590	10,818,414.00
Fermented liquors.....	71,392,160	23,218,730.00
Brewers' permits.....	112,400	
Documentary.....	6	4.35
Oleomargarine.....	1,075,000	860,700.00
Exportation, oleomargarine.....	53,900	
Total.....	627,254,724	134,577,253.96

REDEMPTION OF CHECK STAMPS.

There have been received for redemption from July 1, 1886, to June 30, 1887, twenty claims for check and proprietary stamps, amounting to \$189.87, and the time for the redemption of such stamps having expired June 30, 1886, the same were rejected and returned.

At the close of the last fiscal year there were remaining 79 packages of check and proprietary stamps undisposed of. One package has since been disposed of, leaving on hand 78 packages at the date of this report, and those remaining on hand are chiefly those for which no clue to their ownership can be obtained.

* * * * *

TOBACCO.

The aggregate amount of taxes collected from tobacco during the last fiscal year was \$30,108,067.13. This amount includes internal revenue taxes paid by stamps on imported manufactured tobacco, snuff, cigars, and cigarettes.

The increase of collections for the last fiscal year over those for the previous fiscal year was from—

Manufactured tobacco and snuff	\$1,192,582.50
Cigars and cigarettes	968,822.33
Special taxes	39,299.77

Total increase of collections	2,200,704.60
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The increase in the quantity of tobacco and snuff and in the number of cigars and cigarettes for the last fiscal year over those taxed during the previous fiscal year was :

	Pounds.
Manufactured tobacco	14,511,550
Snuff	395,731
Total	14,907,281
	Number.
Cigars	277,406,955
Cigarettes	273,543,850
Total	550,950,805

The export account shows an increase in manufactured tobacco of 631,459 pounds, in the number of cigars exported of 467,580, and in the number of cigarettes exported of 5,624,120.

The number of cigars imported during the fiscal year ended June 30, 1887, was 81,126,000. The value of the manufactured tobacco imported was \$95,110.57.

The following exhibit shows in detail the receipts for the fiscal year ended June 30, 1887, from each particular source of the tobacco tax, as compared with those for the previous fiscal year :

RECEIPTS FROM TOBACCO AND SNUFF.

Manufactured tobacco, tax 8 cents per pound	\$15,995,019.46
Snuff, tax 8 cents per pound	524,942.26
Total for year ended June 30, 1887	16,519,961.72
Total for year ended June 30, 1886	15,327,379.22
Increase in collections	1,192,582.50

The increase of collections from chewing and smoking tobacco was \$1,160,924.04, and from snuff \$31,658.46.

RECEIPTS FROM CIGARS AND CIGARETTES.

Cigars and cheroots, at \$3 per 1,000	\$11,364,916.33
Cigarettes, at 50 cents per 1,000	792,247.20
Cigarettes, at \$3 per 1,000	32.40
Total for year ended June 30, 1887	12,157,195.93
Total for year ended June 30, 1886	11,188,373.60
Increase in collections from cigar and cigarettes	968,822.33

Of this increase, \$832,112.28 was on cigars and cheroots, and \$136,710.05 was on cigarettes.

OTHER COLLECTIONS.

Manufacturers of cigars, special tax, \$6 per annum	\$113,340.00
Increase special taxes, manufacturers of cigars	4,644.35
Manufacturers of tobacco and snuff, special tax	5,563.75
Decrease special taxes, manufacturers of tobacco	12.10
Dealers in manufactured tobacco, special tax	1,245,412.65
Increase of special taxes, dealers in manufactured tobacco	36,883.48
Peddlers of tobacco, special tax	14,701.94
Decrease of special taxes, peddlers of tobacco	231.67
Leaf dealers' special taxes	51,891.14
Decrease in leaf dealers' special taxes	1,984.49

PRODUCTION OF TOBACCO, CIGARS, CIGARETTES, ETC.

The production of tobacco, snuff, cigars, and cigarettes for the fiscal year ended June 30, 1887, computed from the receipts of stamps sold for all such goods as were put on the market for consumption, together with those removed in bond for export, including importations, was:

TOBACCO AND SNUFF.

	Pounds.
Tobacco taxed at 8 cents per pound	199,937,743
Snuff taxed at 8 cents per pound	6,561,778
Total of tobacco and snuff for consumption	206,499,521
Increase over last fiscal year	14,907,281
Tobacco and snuff exported	13,728,933
Total production for fiscal year 1887	220,228,454
Total production for fiscal year 1886	204,629,714
Total increase over fiscal year 1886	15,598,740

CIGARS AND CIGARETTES.

	Number.
Cigars taxed	3,788,305,443
Cigarettes taxed	1,584,505,200
Total	5,372,810,643
Increase of taxed cigars and cigarettes	550,950,805
Cigars exported	1,895,050
Cigarettes exported	139,935,300
Total product for fiscal year 1887	5,514,640,993
Total product for fiscal year 1886	4,957,598,488
Increase	557,042,505

SPECIAL-TAX PAYERS.

Manufacturers of tobacco, including snuff	927
Manufacturers of cigars and cigarettes	18,890
Peddlers of tobacco	1,650
Dealers in leaf tobacco	4,836
Dealers in manufactured tobacco	518,922
Total number of special-tax payers	545,225
Special-tax payers previous fiscal year	529,353
Increase during last fiscal year	15,872

THE TABULAR STATEMENTS.

In the tables annexed will be found statements showing the manner in which the manufacturing is distributed through the different States, the number of persons and firms engaged in each of the two branches of manufacturing, the quantities of different kinds of material used, and the quantity and kind of products manufactured. These tables are compiled from the reports received from collectors of internal revenue of the transactions of manufacturers in their several districts for the calendar year ended December 31, 1886, a period of time differing from the fiscal year, which will account for any apparent discrepancies between them and the previous part of the report relating to tobacco.

STATEMENT SHOWING THE NUMBER OF CIGAR MANUFACTURERS' ACCOUNTS REPORTED, THE NUMBER OF CIGARS AND CIGARETTES REPORTED MANUFACTURED DURING THE CALENDAR YEAR 1886, AND THE QUANTITY OF TOBACCO USED THEREIN.

States.	Districts.	Accounts.	Tobacco used.	Cigars manufactured.	Cigarettes manufactured.
		Number.	Pounds.	Number.	Number.
Alabama	1	11	96,428	4,157,125	17,700
Arkansas	1	13	68,712	2,251,585	
California	1	303	2,922,722	127,402,392	4,067,200
Colorado	1	108	138,522	7,978,028	
Connecticut	1	311	730,111	33,982,813	4,500
Delaware	1	31	81,138	3,900,573	
Florida	1	134	1,486,924	82,587,873	905,480
Georgia	1	39	46,710	2,084,473	
Illinois	4	1,454	3,957,147	180,906,450	1,819,700
Indiana	3	405	984,482	42,701,509	
Iowa	3	305	391,472	42,303,575	
Kansas	1	103	413,342	17,673,381	
Kentucky	5	473	659,128	29,567,185	
Louisiana	1	130	361,445	43,335,768	11,909,550
Maine	1	8	112,498	4,521,231	
Maryland	1	213	2,371,713	97,450,919	118,817,648
Massachusetts	1	326	2,253,327	97,251,630	
Michigan	1	672	2,044,223	87,435,857	3,080,000
Minnesota	1	112	667,616	30,847,350	
Mississippi	1	3	4,436	323,325	
Missouri	1	111	1,128,989	58,511,240	
Montana	1	13	14,100	797,700	
Nebraska	1	20	330,254	18,218,895	
Nevada	1	3	7,747	381,400	
New Hampshire	1	41	72,529	3,247,565	192,500
New Jersey	3	883	1,374,300	66,946,451	19,578
New Mexico	1	1	1,200	52,400	
New York	3	5,355	57,051,973	1,055,675,203	928,972,431
North Carolina	1	14	1,027,380	2,136,930	202,165,930
Ohio	1	1,004	5,306,175	277,136,001	1,403,300
Oregon	1	1	18,156	1,214,750	
Puerto Rico	4	4,971	18,391,008	847,983,372	438,780
Rhode Island	1	1	21,031	10,170,265	
South Carolina	1	11	15,385	1,033,950	
Tennessee	1	36	79,731	3,483,850	
Texas	3	51	108,141	4,568,510	53,400
Vermont	1	24	43,923	3,453,322	
Virginia	3	263	1,384,329	24,778,395	273,344,710
West Virginia	1	13	784,045	41,719,470	
Wisconsin	4	306	1,257,308	60,141,330	
Total	35	21,452	61,633,440	3,462,014,287	1,607,272,396

AMOUNT, AND THE AMOUNT OF TAXES PAID.

States.		Materials used in manufacturing tobacco.							
Facto- ries.		Leaf.	Scraps.	Stems.	Licorice.	Sugar.	Other materials.	In process.	Total.
No.		Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.
Arkansas	8	85,392	73	.....	4,113	10,028	1,013	1,803	103,023
California	5	42,240	15,175	125	.....	700	.....	1,509	61,509
Colorado	1	.....	3,094	.....	.....	.....	.....	3,203	3,203
Connecticut	1	.....	.....	809	.....	.....	.....	.....	8,309
Delaware	2	2,103,925	.....	148,986	36	320	.....	322,125	2,665,392
Georgia	12	352,775	.....	850	10,593	18,392	3,565	2,513	388,713
Illinois	31	6,107,310	446,071	344,092	355,108	898,927	430,753	702,478	9,332,645
Indiana	15	49,288	11,471	.....	1,156	1,161	333	.....	63,409
Iowa	4	279,599	2,547	68,206	2,714	6,924	10,102	.....	378,153
Kansas	1	19,859	311	.....	164	250	124	12,277	33,015
Kentucky	86	13,772,701	31,240	.....	2,219,594	2,444,611	907,775	105,924	19,571,935
Louisiana	41	2,430,874	4,922	.....	28,648	7,930	18,697	38,433	2,529,506
Maryland	11	6,090,348	416,788	560,734	170,880	278,549	234,444	750,913	8,504,696
Massachusetts	8	507,148	19,030	4,591	53,086	53,221	15,909	85,610	708,461
Michigan	8	6,510,461	853,069	374,105	644,399	836,530	493,697	528,900	10,243,181
Minnesota	3	7,548	34,721	5,845	350	.....	437	.....	48,921
Missouri	74	28,856,696	1,449,309	849,349	6,483,833	4,129,781	917,591	538,088	42,675,037
New Jersey	12	25,337,637	471,845	387,015	4,238,879	3,930,331	1,081,994	2,964,974	30,313,856
New York	99	13,132,149	2,920,960	151,257	867,218	917,957	1,028,408	907,052	19,922,291
North Carolina	211	23,071,991	20,533	42,339	785,537	306,251	361,099	1,684,228	26,544,368
Ohio	40	10,911,250	140,267	459,309	2,157,025	1,921,786	649,977	507,944	16,748,158
Pennsylvania	37	3,486,916	96,131	108,596	23,124	38,632	102,257	203,220	4,059,876
South Carolina	1	59,068	.....	2,320	.....	.....	.....	.....	61,986
Tennessee	42	1,050,920	8,328	28,327	74,891	50,459	2,793	28,269	1,853,187
Texas	2	5,037	.....	.....	.....	.....	.....	.....	6,057
Virginia	197	45,707,838	422,632	8,774	2,277,583	2,327,391	1,941,319	1,538,649	54,224,135
West Virginia	12	183,837	798,075	.....	14,336	20,054	1,803	.....	1,018,105
Wisconsin	7	4,384,320	41,178	819,770	76,566	207,609	119,169	228,004	5,576,616
Total	971	194,866,817	8,389,865	4,862,879	20,443,092	18,487,264	9,234,829	11,250,575	267,035,541

NUMBER OF SPECIAL-TAX PAYERS.
STATEMENT SHOWING THE NUMBER OF PERSONS WHO PAID SPECIAL TAXES IN THE SEVERAL STATES AND TERRITORIES DURING THE SPECIAL-TAX YEAR ENDED APRIL 30, 1887.

States and Territories.	Rectifiers.	Retail liquor dealers.	Wholesale liquor dealers.	Manufacturers of stills.	Manufacturers of cigars.	Dealers in leaf tobacco.	Dealers in leaf tobacco exceeding 25,000 pounds.	Retail dealers in leaf tobacco.	Dealers in manufactured tobacco.	Manufacturers of tobacco.	Peddlers of tobacco.	Brewers.	Retail dealers in malt liquors.	Wholesale dealers in liquors.	Total.
Alabama.....	5	1,065	32	.....	39	.....	1	1	8,082	8	1	1	24	17	9,860
Arkansas.....	.....	530	21	.....	22	28	1	1	6,170	10	1	191	9	13	6,907
California.....	196	11,023	308	2	423	4	1	1	14,773	16	27	.....	257	139	27,334
Colorado ^b	6	2,174	51	.....	64	.....	.....	.....	4,611	.....	.....	22	64	44	7,040
Connecticut.....	18	3,980	42	.....	322	81	17	.....	7,277	2	10	24	140	106	11,123
Delaware ^c	3	671	11	.....	38	.....	.....	.....	8,389	4	4	5	13	6	4,114
Florida.....	.....	305	10	.....	170	26	1	1	2,811	.....	3	.....	2	9	3,008
Georgia.....	14	1,025	49	1	30	.....	.....	.....	10,691	12	4	1	16	20	12,463
Illinois.....	132	11,635	270	3	1,257	61	6	1	33,440	29	85	131	591	204	47,848
Indiana.....	16	5,624	61	.....	428	53	22	.....	16,534	10	21	55	172	103	23,150
Iowa.....	13	3,384	54	.....	268	7	1	.....	15,565	3	7	78	253	66	19,929
Kansas.....	1	2,003	17	.....	171	.....	.....	.....	14,394	1	10	5	84	42	16,604
Kentucky.....	56	3,398	291	1	234	1,010	361	.....	10,085	75	11	29	104	40	15,745
Louisiana.....	25	4,789	118	.....	127	20	.....	.....	7,168	55	51	7	20	28	12,408
Maine.....	1	919	8	.....	41	.....	.....	.....	5,464	.....	36	1	92	9	6,574
Maryland.....	81	6,108	160	1	738	91	44	.....	12,323	11	15	59	164	35	19,870
Massachusetts.....	61	7,263	198	1	639	47	1	.....	18,276	8	111	36	472	186	27,190
Michigan.....	10	6,920	61	1	845	19	.....	.....	17,738	6	65	120	266	191	25,502
Minnesota.....	14	4,136	62	.....	206	3	.....	.....	10,692	2	10	146	130	87	15,408
Mississippi.....	.....	826	14	.....	4	.....	.....	.....	6,275	.....	.....	.....	167	13	7,249
Missouri.....	60	6,746	175	1	613	112	21	.....	21,001	63	16	66	266	153	24,255
Montana ^e	1	1,815	48	.....	10	.....	.....	.....	2,512	1	.....	38	86	4	4,541
Nebraska.....	3	3,323	51	.....	127	4	1	.....	11,018	.....	5	45	160	105	15,382
Nevada ^g	2	1,935	17	.....	3	.....	.....	.....	1,834	.....	.....	13	19	18	2,832
New Hampshire.....	.....	1,203	6	.....	34	.....	.....	.....	3,094	.....	23	5	176	44	4,499
New Jersey.....	29	7,759	77	1	812	16	.....	.....	17,485	12	150	51	367	161	24,887
New Mexico ^h	2	1,717	42	.....	.....	.....	.....	.....	6,453	.....	1	22	50	47	4,286
New York.....	276	31,883	819	1	4,626	518	1	.....	63,178	97	360	397	2,118	467	104,681
North Carolina.....	31	1,620	31	1	1,434	298	40	.....	8,540	197	82	.....	40	23	11,210
Ohio.....	112	13,540	371	4	1,434	304	85	1	26,173	42	201	139	486	261	51,156

^a Exclusive of manufacturers of, and dealers in oleomargarine.
^b Including the Territory of Wyoming.
^c Including the State of Delaware, two counties of Virginia, and nine counties of Maryland.
^d Including the District of Columbia.
^e Including the Territory of Idaho.
^f Including the Territory of Dakota.
^g Including the Territory of Utah.
^h Including the Territory of Arizona.

STATEMENT SHOWING THE NUMBER OF PERSONS WHO PAID SPECIAL TAXES IN THE SEVERAL STATES AND TERRITORIES, ETC.—Continued.

States and Territories.	Rectifiers.	Retail liquor dealers.	Wholesale liquor dealers.	Manufacturers of stills.	Manufacturers of cigars.	Dealers in leaf tobacco.	Dealers in leaf tobacco not exceeding 25,000 pounds.	Retail dealers in leaf tobacco.	Dealers in manufactured tobacco.	Manufacturers of tobacco.	Peddlers of tobacco.	Brewers.	Retail dealers in malt liquors.	Wholesale dealers in malt liquors.	Total.
Oregon a.....	9	1,620	50	.....	25	4	1	.....	4,432	.....	1	78	109	54	6,383
Peonay/pania.....	229	10,540	444	1	4,127	309	92	.....	55,214	29	315	368	885	313	81,866
Rhode Island.....	2	1,136	34	.....	71	2	.....	.....	3,510	.....	21	8	59	11	4,856
South Carolina.....	5	1,001	20	.....	20	.....	.....	.....	6,729	6	2	3	17	12	7,808
Tennessee.....	18	1,536	47	.....	34	.....	104	.....	7,045	47	13	4	23	25	9,976
Texas.....	18	3,064	44	.....	58	4	1	.....	14,680	2	5	10	615	138	18,540
Vermont.....	.....	2,448	2	.....	26	1	.....	.....	2,300	.....	12	.....	50	7	2,908
Virginia.....	18	2,538	44	.....	164	476	50	.....	7,924	186	7	2	41	25	11,475
West Virginia.....	4	756	11	.....	106	27	23	.....	4,150	11	.....	8	48	14	5,158
Wisconsin.....	44	6,368	100	1	565	96	11	.....	14,196	7	44	177	101	71	21,811
Total.....	1,383	188,107	4,241	20	18,570	3,848	886	5	513,955	942	1,733	2,269	8,685	3,309	747,933
Total for special tax year 1886.....	1,576	190,121	4,299	24	18,000	3,938	1,030	2	501,819	876	1,697	2,292	8,409	3,012	736,825

a Including the Territories of Washington and Alaska.

DISTILLED SPIRITS.

DISTILLERIES REGISTERED AND OPERATED DURING THE FISCAL YEAR ENDED JUNE 30, 1887.

States and Territories.	Grain.		Molasses.		Fruit.		Total registered.	Total operated.
	Registered.	Operated.	Registered.	Operated.	Registered.	Operated.		
Alabama.....	3	3			56	56	59	59
Arkansas.....	22	19			18	18	40	37
California.....	2	1			245	232	247	233
Colorado.....	1	1					1	1
Connecticut.....	1	1			76	76	77	77
Delaware.....					56	56	56	56
Georgia.....	66	61			189	185	255	246
Illinois.....	23	21			30	26	53	47
Indiana.....	12	9			53	52	65	61
Iowa.....	2	2			6	6	8	8
Kansas.....	1	1			2	2	3	3
Kentucky.....	322	250	1	1	350	350	673	613
Louisiana.....					9	9	9	0
Maryland.....	26	23			9	9	35	32
Massachusetts.....	1	1	8	8	11	11	20	29
Missouri.....	26	25			41	41	67	62
Mississippi.....					5	5	5	0
Nebraska.....	2	2					2	6
New Hampshire.....			1	1	2	2	3	5
New Jersey.....	1	1			84	84	85	85
New Mexico.....					5	5	5	5
New York.....	2	2			64	64	66	66
North Carolina.....	368	307			1,155	1,155	1,523	1,462
Oregon.....	1	1			11	11	12	12
Ohio.....	33	28			41	40	74	68
Pennsylvania.....	103	89			38	38	141	127
South Carolina.....	16	14			25	25	41	39
Tennessee.....	75	59			222	202	297	261
Texas.....	4	3			4	4	8	7
Vermont.....					4	4	4	4
Virginia.....	40	30			1,054	1,045	1,094	1,075
West Virginia.....	2	1			121	113	123	114
Wisconsin.....	5	5					5	5
Total.....	1,160	969	10	10	3,986	3,926	5,156	4,905

COMPARATIVE STATEMENT SHOWING THE NUMBER AND CAPACITY OF GRAIN AND MOLASSES DISTILLERIES IN OPERATION ON THE 1ST DAY OF SEPTEMBER, IN EACH OF THE YEARS 1880 TO 1887, INCLUSIVE.

Date.	Number of distilleries.		Capacity of grain distilleries.		Capacity of molasses distilleries.		Total spirit-producing capacity per day.
	Grain.	Molasses.	Grain.	Spirits.	Molasses.	Spirits.	
September 1, 1880.....	372	6	<i>Bushels.</i> 69,013	<i>Gallons.</i> 275,364	<i>Gallons.</i> 8,899	<i>Gallons.</i> 7,564	282,928
September 1, 1881.....	298	6	70,193	272,806	8,573	7,287	280,093
September 1, 1882.....	198	7	57,755	227,973	10,426	8,861	236,834
September 1, 1883.....	387	7	56,859	224,107	8,721	8,818	230,925
September 1, 1884.....	294	8	47,855	189,308	8,814	7,424	196,732
September 1, 1885.....	212	8	42,594	174,295	7,122	6,054	180,349
September 1, 1886.....	305	9	46,180	181,223	8,853	7,524	188,747
September 1, 1887.....	293	8	50,355	190,100	6,460	5,493	204,593

STATEMENT SHOWING THE NUMBER OF FRUIT DISTILLERIES REGISTERED AND OPERATED DURING THE FISCAL YEAR ENDED JUNE 30, 1887, BY COLLECTION DISTRICTS.

Districts.	Registered.	Operated.	Districts.	Registered.	Operated.
Alabama	56	56	New Mexico	5	5
Arkansas	18	18	New York:		
California:			Fourteenth district	32	32
First district	126	120	Fifteenth district	14	14
Fourth district	110	112	Twenty-first district	8	8
Connecticut	76	76	Twenty-eighth district	10	10
Delaware	56	56	North Carolina:		
Georgia	189	185	Fourth district	352	352
Illinois:			Fifth district	320	320
Fourth district	16	14	Sixth district	483	483
Fifth district	2	2	Oregon	11	11
Eighth district	1	1	Ohio:		
Thirteenth district	11	11	Sixth district	8	8
Indiana:			Tenth district	9	9
Sixth district	9	9	Eleventh district	13	13
Seventh district	41	40	Eighteenth district	11	10
Eleventh district	3	3	Pennsylvania:		
Iowa:			First district	29	29
Second district	3	3	Ninth district	2	2
Fourth district	3	3	Twelfth district	4	4
Kansas	2	2	Nineteenth district	1	1
Kentucky:			Twenty-second district	2	2
Second district	95	95	South Carolina	25	25
Fifth district	43	43	Tennessee:		
Sixth district	6	6	Second district	58	48
Seventh district	70	70	Fifth district	164	154
Eighth district	136	136	Texas:		
Louisiana	9	9	First district	1	1
Maryland	9	9	Fourth district	3	3
Massachusetts:			Vermont	4	4
Tenth district	11	11	Virginia:		
Missouri:			Second district	247	247
First district	28	28	Fourth district	450	449
Fourth district	2	2	Sixth district	357	349
Sixth district	11	11	West Virginia	121	113
Mississippi	5	5	Total	3,986	3,926
New Hampshire	2	2			
New Jersey:					
First district	30	30			
Third district	27	27			
Fifth district	27	27			

STATEMENT SHOWING THE NUMBER AND CAPACITY OF GRAIN AND MOLASSES DISTILLERIES IN OPERATION AT THE BEGINNING OF EACH MONTH DURING THE FISCAL YEAR ENDED JUNE 30, 1887, AND THE FIRST THREE MONTHS OF THE PRESENT FISCAL YEAR.

Months.	Number of distilleries.		Capacity of grain distilleries.		Capacity of molasses distilleries.		Total spirit-producing capacity per day.
	Grain.	Molasses.	Grain.	Spirits.	Molasses.	Spirits.	
			<i>Bushels.</i>	<i>Gallons.</i>	<i>Gallons.</i>	<i>Gallons.</i>	<i>Gallons.</i>
July	363	6	47,208	183,629	6,405	5,445	189,074
August	297	7	37,270	146,123	9,791	8,321	154,444
September	305	9	46,180	181,223	8,853	7,524	188,747
October	326	10	48,363	190,675	9,770	8,367	198,982
November	417	7	57,772	224,303	5,777	4,919	229,213
December	529	9	60,372	257,988	8,037	7,342	265,330
January	541	8	71,012	272,777	6,103	5,179	277,956
February	599	9	77,175	297,340	7,834	6,661	304,001
March	625	9	77,771	294,846	8,104	6,890	301,736
April	649	8	80,458	307,284	5,354	4,652	311,936
May	577	9	70,538	277,653	7,637	6,492	284,145
June	492	8	58,889	233,636	6,869	5,838	238,874
July	368	7	52,478	207,176	8,087	6,875	214,051
August	303	6	40,090	158,161	4,339	3,689	161,850
September	293	8	50,355	199,100	6,460	5,493	204,593

COMPARATIVE STATEMENT OF DISTILLERIES REGISTERED AND OPERATED.

The whole number of grain distilleries registered during the fiscal year ended June 30, 1887, was 1,160, of which number 969 were operated.

The numbers registered and operated during the fiscal year ended June 30, 1886, were 1,132 and 950 respectively, showing an increase during the last fiscal year of 28 in the number registered and of 19 in the number operated.

The increase in the number registered and in the number operated occurred in the class of distilleries having the smaller capacities for the production of spirits, there having been an increase of 34 in the number of distilleries of this class registered and of 30 in the number operated.

In the larger distilleries there was a decrease of 6 in the number registered and of 11 in the number operated.

During the fiscal year ended June 30, 1886, 884 distilleries of the smaller class, varying in daily grain capacity from not over 5 bushels to not over 60 bushels per diem, were registered, and of this number 726, or 82 per cent., were operated.

Of the larger distilleries having daily capacities varying from 60 bushels to several thousand bushels per diem, 248 were registered and 224, or 90 per cent., were operated.

During the fiscal year ended June 30, 1887, 918 of the smaller distilleries were registered, and 756, or 82 per cent., were operated. Of the larger distilleries, 242 were registered and 213, or 88 per cent., were operated.

There were 10 rum distilleries registered and 10 operated, an increase of 1 over the number reported for the previous fiscal year.

There were 3,986 fruit distilleries registered and 3,926 operated, a decrease of 1,115 in the number registered and 1,149 in the number operated during the fiscal year.

The whole number of grain, molasses, and fruit distilleries registered and operated during the year were 5,156 and 4,905, respectively.

COMPARATIVE STATEMENT OF MATERIALS USED AND SPIRITS PRODUCED DURING THE LAST TEN (FISCAL) YEARS.

Year.	Grain used.	Spirits produced.	Molasses used.	Rum produced.
	<i>Bushels.</i>	<i>Gallons.</i>	<i>Gallons.</i>	<i>Gallons.</i>
1878.....	14,680,552	54,499,677	1,995,645	1,603,376
1879.....	18,735,814	69,649,166	2,801,307	2,243,455
1880.....	24,006,359	87,915,969	3,110,190	2,439,301
1881.....	31,291,175	115,609,644	2,710,307	2,118,506
1882.....	27,459,095	104,149,077	2,121,804	1,704,084
1883.....	18,644,787	72,235,175	2,373,106	1,801,960
1884.....	18,927,982	73,724,581	2,259,536	1,711,158
1885.....	17,865,203	72,834,198	2,719,416	2,081,105
1886.....	19,195,332	78,544,428	2,308,130	1,799,952
1887.....	17,959,565	75,974,376	2,428,783	1,857,223
Total.....	208,765,864	805,136,291	24,828,224	19,300,180
Average.....	20,876,586	80,513,629	2,482,822	1,930,018

The quantity of grain used in the production of spirits during the fiscal year ended June 30, 1887 (17,959,565 bushels), is a decrease of 1,235,767 bushels from the amount used in the preceding fiscal year (19,195,332 bushels), and is 2,917,021 bushels less than the average (20,876,586 bushels) for the last ten years.

The number of gallons of spirits produced from grain during the year (75,974,376) shows a decrease of 2,570,052 gallons from the product (78,544,428 gallons) of the year ended June 30, 1886, and is 4,539,253 gallons less than the average product (80,513,629 gallons) for the last ten years.

The yield of spirits from each bushel of grain is 4.23+ gallons, showing a marked advance. The yield for the two preceding years was 4.091 for 1886 and 4.076 for 1885.

The quantity of molasses used for the production of rum during the fiscal year (2,428,783 gallons) shows an increase of 120,653 gallons over the quantity used in the previous year (2,308,130 gallons), and is 54,030 gallons less than the average (2,482,822 gallons) for the last ten years.

The quantity of rum distilled from molasses during the fiscal year (1,857,223 gallons) shows an increase of 57,271 gallons over the product of the previous year, and is 78,795 gallons less than the average product (1,936,018 gallons) for the last ten years.

The following statement shows the number of cattle and hogs fed at registered grain distilleries, arranged by States :

States.	Number of cattle fed.	Average increase in weight.	Total increase in weight.	Number of hogs fed.	Average increase in weight.	Total increase in weight.	Total increase in weight of cattle and hogs.
Alabama	9	295+	2,661	75	40+	3,025	5,685
Arkansas	137	179+	24,650	616	84+	51,765	76,415
California				1,460	241	351,860	351,860
Connecticut	95	300	28,500				28,500
Georgia	438	101+	44,240	2,786	86+	239,600	283,840
Illinois	21,650	244+	5,294,707	190	84+	16,000	5,310,707
Indiana	4,240	219+	929,700				929,700
Iowa	1,698	345+	586,230	125	90	11,250	597,480
Kentucky	23,380	179+	4,203,120	10,987	74+	817,018	5,020,138
Maryland	179	96+	17,344	257	92+	23,855	41,199
Massachusetts	80	250	20,000	40	200	8,000	28,000
Missouri	966	241+	233,095	632	90+	57,470	290,560
Nebraska	1,849	241+	446,033				446,033
New Jersey	800	150	120,000				120,000
New York	529	185+	100,000				100,000
North Carolina	863	155+	134,115	4,798	72+	345,790	479,900
Ohio	4,344	276+	1,201,125	66	128+	8,500	1,209,625
Oregon				150	90	13,500	13,500
Pennsylvania	2,777	212+	589,775	1,275	105+	134,637	724,410
South Carolina	204	150+	30,700	424	71+	30,495	61,192
Tennessee	660	296+	196,700	3,406	118+	403,050	599,750
Texas	40	200	8,000	50	100	5,000	13,000
Virginia	78	212+	28,820	281	100	28,100	56,920
West Virginia	68	198+	13,500				13,500
Wisconsin	909	254+	230,947	16	200	3,200	234,140
Total	66,612		14,484,022	27,634		2,552,115	17,036,137

SUMMARY.

Number of cattle fed at registered grain distilleries in the United States	66,612
Average increase in weight of cattle	219+
Total increase in weight of cattle	14,484,022
Number of hogs fed at registered grain distilleries in the United States	27,634
Average increase in weight of hogs	12+
Total increase in weight of hogs	2,552,115
Total number of cattle and hogs fed	93,616
Average increase in weight of cattle and hogs	181+
Total increase in weight of cattle and hogs	17,036,137

TAXATION OF FRACTIONAL PARTS OF A GALLON OF DISTILLED SPIRITS.

The taxation of all fractions of a gallon of distilled spirits is a measure of importance, the expediency of which I have very fully set forth in my annual reports for the two preceding fiscal years, and I now renew my recommendation that legislation be had to this end.

A bill for this purpose was introduced and received the assent of both houses of the last Congress, but, owing to the addition of amendments, failed to become a law.

The law, as it now stands, exempts from taxation any fraction of a gallon in a package of spirits, in addition to the number of full gallons therein, and which is less than one-half of a gallon.

It also taxes, as a full gallon, any fraction of a gallon equal to or exceeding one-half gallon.

But it is within the power of the distiller to so fill his packages that each one shall contain a large untaxed fraction when gauged; and if the spirits are of a kind which does not remain long in the distillery warehouse, but is immediately withdrawn and transferred to other packages for consumption, the untaxed fractions are speedily made available for the benefit of the distiller.

The practical consequences are, that a very considerable quantity of spirits escapes taxation; that an inequality in the payment of tax exists as between the producers of the spirits referred to and the producers of the kinds of spirits which necessarily remain in warehouse for long periods of time, and until the fractions cease to be available; and that the possibility of avoiding a portion of the tax, and the eager endeavor to increase the amount so avoided, serve to demoralize the producer and tend always towards disregard of law.

The taxation of all fractions would remove this source of trouble, and would, I think, benefit the revenue to an extent not to be measured merely by the amount of tax which would be collected from fractions of gallons.

SPECIAL BONDED WAREHOUSES FOR THE STORAGE OF FRUIT BRANDY—DISTILLATION OF OTHER FRUITS THAN APPLES, PEACHES, OR GRAPES.

I deem it proper to urge anew that legislation be had authorizing the establishment of special bonded warehouses for the storage of brandy made from apples or peaches, or from any fruit whose distillation may be authorized under the rules and regulations which govern the distillation of the fruits above named.

Such warehouses for the storage of brandy distilled from *grapes* only were authorized by the act approved March 3, 1877, and have been established for ten years past.

I am satisfied that similar accommodation should be extended to the distillers of brandy from any fruits, and that it would be found of advantage to the Government as well as to the distiller.

The existing law in relation to the production of brandy from apples, peaches, or grapes exclusively, permits the distiller of brandy from these fruits to be exempted from the burden of providing a warehouse upon the distillery premises, at his own expense, for the exclusive storage of all spirits made by him, such as is required of distillers of grain; but in place of the custody of the spirits which the Government maintains, in case of storage in warehouse, the distiller of brandy from *apples* and *peaches* is compelled to make immediate payment of the tax, which pay-

ment can, under existing regulations, and with due regard to an effective collection of the tax, be deferred not later than four months from the time of making report of the production of the spirits.

This early payment of the tax is regarded by the distiller as a great hardship, as it compels him to meet the tax before the spirits have aged sufficiently to be ready for sale, and before a profitable market can be obtained.

This, it must be allowed, is a serious disadvantage. It is alleged that it prevents distillation to a considerable extent, and it undoubtedly occasions much discontent with the tax.

I am of the opinion that the extension to these distillers of the right of warehousing their brandy for a period not exceeding three years, such as is now enjoyed by the distillers of brandy from grapes, would be the grant of a privilege to which they are equally entitled with the distillers of brandy from grapes, would remove a serious cause of complaint, and would tend to produce an increase of revenue from this source.

For this purpose I recommend that the provisions of the act of March 3, 1877, relating to the production of fruit brandy, and to punish frauds connected with the same, be made applicable to brandy distilled from apples or peaches.

I also recommend that the provisions of section 3255 of the Revised Statutes of the United States be enlarged so as to authorize the Commissioner of Internal Revenue, with the approval of the Secretary of the Treasury, to permit the distillation of other fruits under the same provisions which now govern the distillation of apples, peaches, and grapes.

The effect of such an amendment of the law would be to allow the distillation of considerable quantities of fruits of various kinds which are now wasted, as it is impracticable to distill them under the conditions required by the general law concerning the distillation of spirits.

The brandy distilled from such fruits should also be included within the warehousing act above recommended.

ASSESSMENTS.

The following statements relative to assessments; to spirits deposited in and withdrawn from distillery warehouses and special bonded warehouses, the number and location of such warehouses and the names of the proprietors thereof; to the stock of spirits in the United States October 1, 1887; to exportations of spirits, tobacco, snuff, cigars, and cigarettes in bond; to exportations of tobacco, cigars, fermented liquors, and stills, with benefit of drawback; and to the production, consumption, and exportation of oleomargarine and other particulars concerning the operation of the "oleomargarine law" are prepared from reports in the division of assessments:

MISCELLANEOUS ASSESSMENTS.

The following table shows the assessments made by the Commissioner of Internal Revenue during the fiscal years ended June 30, 1886, and June 30, 1887, respectively, and the increase or decrease on each article or occupation:

	Assessed during fiscal year ended—		Fiscal year ended June 30, 1887.	
	June 30, 1886.	June 30, 1887.	Increase over 1886.	Decrease from 1886.
Tax on deficiencies in production of distilled spirits.....	\$26,598.18	\$41,438.20	\$14,840.02	.....
Tax on excess of materials used in the production of distilled spirits.....	1,044.11	1,463.17	419.06	.....
Tax on circulation of banks and others.....		4,288.37	4,288.37	.....
Tax on distilled spirits fraudulently removed or seized, also taxes overdue.....	7,094,334.15	3,333,295.00	.....	\$3,761,038.25
Tax on fermented liquor removed from brewery unstamped.....	22,912.72	4,941.16	.....	17,971.56
Tax on tobacco, snuff, and cigars removed from factory unstamped.....	18,569.78	12,744.11	.....	845.67
Tax on oleomargarine sold without payment of tax.....		666.54	666.54	.....
Tax on legacies and successions.....	219.18	35.00	.....	184.18
Tax on income and dividends.....	67.50	9,527.62	9,460.12	.....
Assessed penalties.....	\$4,853.28	83,515.66	.....	1,337.72
Unassessed and unassessable penalties, interest, deficiencies in bonded accounts which have been collected, taxes previously abated, conscience money; also fines, penalties, and forfeitures, and costs paid to collectors by order of court or by order of Secretary, and unassessable taxes recovered; also amount of penalties and interest received for validating unstamped instruments (Form 58).....	221,495.80	213,933.33	.....	7,562.48
Special taxes (licenses).....	63,440.66	45,556.05	.....	7,884.61
Total.....	7,518,565.36	3,751,403.00	.....	3,767,150.36

ASSESSMENTS FOR 1887.

The following statement shows the amount of assessments in each of the several States and Territories of the United States during the fiscal year ended June 30, 1887:

States and Territories.	Amount.	States and Territories.	Amount.
Alabama.....	\$2,613.98	Montana and Idaho.....	\$1,200.63
Arkansas.....	4,631.33	Nebraska and Dakota.....	1,970.91
California.....	60,166.79	Nevada and Utah.....	1,912.36
Colorado and Wyoming.....	1,707.85	New Hampshire.....	1,421.21
Connecticut.....	7,114.51	New Jersey.....	31,528.21
Delaware.....	845.91	New Mexico and Arizona.....	1,711.74
Florida.....	341.33	New York.....	69,424.87
Georgia.....	20,962.65	North Carolina.....	68,663.51
Illinois.....	38,746.84	Ohio.....	51,283.02
Indiana.....	41,282.30	Oregon, Washington, and Alaska.....	6,156.57
Iowa.....	8,748.40	Pennsylvania.....	329,524.45
Kansas and Indian Territory.....	6,629.85	Rhode Island.....	640.36
Kentucky.....	2,349,244.63	South Carolina.....	4,911.54
Louisiana.....	2,788.32	Tennessee.....	65,703.86
Maine.....	3,343.90	Texas.....	4,071.21
Maryland.....	328,590.28	Vermont.....	1,034.24
Massachusetts.....	7,811.53	Virginia.....	50,927.75
Michigan.....	8,447.32	West Virginia.....	107,835.27
Minnesota.....	1,875.48	Wisconsin.....	4,309.48
Mississippi.....	1,886.06		
Missouri.....	11,894.69	Total.....	3,751,405.00

The explanation of the increase in assessments of tax on deficiencies in the production of distilled spirits and excess of materials used lies in the fact that a large number of new distilleries were started during the year. Taxes of this character abated before assessment under the pro

visions of the act of March 1, 1879, as amended by the act of May 28, 1880, amounted to \$51,083.31, as follows:

Sixty-five claims from grain distillers, amount of tax abated—	
On excess of materials used.....	\$5,050.27
On deficiencies in production of spirits	45,117.03
Thirty-three claims from fruit distillers, amount of tax abated on deficiencies	916.01
Total	51,083.31

The great falling off in assessment of overdue taxes on distilled spirits is due to the fact that while at the beginning of the fiscal year 1886 there were 19,812,118 gallons of spirits in distillery warehouses, the tax on which would become due during the year under the terms of the warehousing bonds, there were only 10,701,425 gallons of such spirits in distillery warehouses at the beginning of the year 1887. As there were 12,788,297 gallons of such spirits in bond at the beginning of the present fiscal year, some increase in assessments of this character may be expected during the year.

DECREASED PRODUCTION OF SPIRITS.

The quantity of spirits (77,831,599 gallons) produced and deposited in distillery warehouses during the fiscal year ended June 30, 1887, is less than the production (80,344,380 gallons) of the year 1886 by 2,512,781 gallons.

The difference is distributed among the different kinds known to the trade as follows:

Increase in the production of—	Gallons.
Rum.....	57,271
Gin.....	90,418
High wines.....	14,675
Pure, neutral, or cologne spirits	527,638
Miscellaneous.....	540,744
Total increase	1,230,746
Decrease in the production of—	Gallons.
Bourbon whisky	2,303,785
Rye whisky.....	528,900
Alcohol.....	910,842
Total decrease	3,743,527
Net decrease	2,512,781

DECREASED TAX-PAID WITHDRAWALS OF SPIRITS.

The quantity of spirits (66,183,303 gallons) withdrawn tax-paid, from distillery warehouses during the fiscal year ended June 30, 1887, is less than the quantity (69,096,900 gallons) withdrawn from distillery warehouses during the fiscal year ended June 30, 1886, by 2,913,597 gallons, the decrease being distributed among the different kinds known to the trade as follows:

Decrease in withdrawals of—	Gallons.
Bourbon whisky	3,977,704
Rye whisky	410,209
Miscellaneous	261,604
Total decrease	4,649,707

Increase in withdrawals of—		Gallons.	Gallons.
Alcohol.....		955,917	
Rum.....		104,627	
Gin.....		58,720	
High wines.....		10,641	
Pure, neutral, or cologne spirits.....		606,205	
Total increase.....			1,736,110
Net decrease from 1886.....			2,913,597

If the quantity, 2,216,645 gallons (as stated by the chief of the Bureau of Statistics), of domestic spirits exported and reimported during the year upon payment of a customs duty equal to the internal-revenue tax be added, the quantity virtually withdrawn from distillery warehouses during the year ended June 30, 1887, is found to be 68,399,948 gallons, or 1,664,452 gallons less than during the year 1886, including the 967,500 gallons reimported and tax-paid during that year.

REIMPORTED SPIRITS.

The spirits referred to in the preceding statement, and upon which a customs duty has been paid, were removed from distillery warehouses for export under internal-revenue laws (section 3330, Revised Statutes, act of June 9, 1874), and upon their return to this country were entered under section 2500, Revised Statutes, of the customs laws as *reimported spirits*.

In addition to this quantity there yet remain, July 1, 1887, in foreign storage-houses some six or seven million gallons of domestic spirits which will doubtless be returned to this country at no distant day; and which, if admitted under section 2500, Revised Statutes, will, under existing laws and regulations, be entitled to warehousing privileges conferred by section 2962, Revised Statutes.

In an opinion rendered by the Attorney-General under date of July 2, 1883, it is held, in effect, that a shipment of domestic spirits to a foreign port with the intention of bringing the spirits back to this country is not an exportation within the meaning and intent of the statute; and does not, under such circumstances, entitle the spirits upon their return to be entered under section 2500, Revised Statutes, as reimported spirits.

Guided by this opinion, regulations have from time to time been issued with the view of securing bona fide exportations, and preventing entry under section 2500 of any distilled spirits that have not been actually exported. While effecting their purpose as to withdrawals in most instances, these regulations have proven to be of but little practical value in preventing wrongful reimportations under section 2500, owing largely to the difficulty in obtaining proof of the *ultimate intention* of the owners of the spirits, who doubtless in a majority of cases purchase the spirits while stored in foreign warehouses. As a result, therefore, the spirits, although not actually exported and still an article on which an internal-revenue tax should be collected, are nevertheless returned and entered under section 2500 as reimported spirits and, as such, are held subject to a customs duty.

This anomalous state of affairs is open to still further objections. Under existing internal-revenue laws the time within which tax is to be paid on spirits deposited in a distillery warehouse is limited to three years from the date of entry of the spirits into warehouse; and the allowance for leakage and evaporation of the spirits during that period is also limited by section 17 of the act of May 28, 1880. But by withdrawing for export spirits that have remained in warehouse during the

full bonded period, and then holding them in foreign warehouses until such time as a demand may bring them home, the pretended exporter or subsequent purchaser of the spirits secures thereby, not only an indefinite period within which to pay the duty imposed by section 2500, Revised Statutes, but escapes payment of any duty or tax on leakage occurring during that period, however great.

This easy method of evading the internal-revenue law, it will be noticed, results not only in a considerable loss and delay in the collection of the revenue in such cases, and diverts the revenue thus obtained from its proper channels, but gives the person who thus evades the law an unfair advantage over the distiller who pays the full amount of tax on his spirits and as soon as it becomes due. These considerations, in my opinion, suggest the need of further legislation on this subject; and I therefore recommend (1) that section 2500, Revised Statutes, be so amended as to *exclude*, as an article subject to a customs duty, all domestic spirits returned to this country; and to provide for the collection of the internal-revenue tax due on such spirits as shown by the marks and brands on the packages at the time of removal of the spirits from the distiller's warehouse, or, if this is deemed inadvisable, (2) that the section be amended so as to read as follows:

Upon the reimportation of articles once exported, of the growth, product, or manufacture of the United States, upon which no internal tax has been assessed or paid, or upon which such tax has been paid and refunded by allowance of drawback, there shall be levied, collected, and paid a duty equal to the tax imposed by the internal-revenue laws upon such articles: *Provided*, That upon all distilled spirits entered under the provisions of this section as reimported spirits there shall be collected and paid upon the duty herein imposed interest at the rate of — per cent. per annum, to be computed, in case the spirits were exported without payment of tax, from the date of withdrawal of such spirits from the distiller's warehouse, or, in case the spirits were exported with benefit of drawback, from the date of payment of such drawback, to the date, in either case, when such duty shall be paid: *And provided further*, That the interest herein required to be paid shall be in addition to any further duty or charge on such reimported spirits when deposited in bond in any public or private bonded warehouse under existing law.

DISTILLED SPIRITS ALLOWED FOR LOSS BY LEAKAGE OR EVAPORATION IN WAREHOUSE.

The quantity of spirits (1,833,681 gallons) reported in the preceding table as lost by leakage or evaporation in warehouse, is that portion of actual leakage in warehouse from packages withdrawn during the year which has been allowed in accordance with the provisions of section 17 of the act of May 28, 1880.

The following statement shows the quantity of spirits, as per original gauge, withdrawn from warehouse for all purposes during the stated period, and the amount and percentage of leakage allowed thereon under the provisions of the act named:

Year.	Total quantity withdrawn.	Leakage allowed.	Percentage of withdrawal.
	<i>Gallons.</i>	<i>Gallons.</i>	
1880	78, 199, 283	75, 834	.096
1881	84, 335, 000	811, 406	.962
1882	80, 281, 611	1, 231, 336	1.533
1883	83, 291, 100	2, 291, 013	2.750
1884	92, 022, 593	3, 858, 404	4.193
1885	490, 925, 782	4, 424, 314	4.866
1886	678, 568, 797	1, 806, 868	2.299
1887	70, 782, 951	1, 833, 681	2.591

a Includes 7,750,000 gallons stamped for export not actually withdrawn.

b Includes 2,404,001 gallons stamped for export not actually withdrawn.

The increase of 26,813 gallons leakage allowed under section 17 of the act of May 28, 1880, over the quantity so allowed during the previous year, is explained by the fact that large quantities of old spirits were withdrawn in 1886, as to which, under the operation of Circular No. 32, no leakage at the time of withdrawal was allowed; the leakage had been allowed during the year ended June 30, 1885, upon regauges made during that year, while no spirits were withdrawn during the year ended June 30, 1887, upon which leakage had been allowed during any previous year.

SPIRITS REMOVED IN BOND FOR EXPORT.

The following statement shows the quantity and percentage of production of distilled spirits removed in bond for export during each fiscal year since the passage of the act of June 6, 1872:

Year.	Taxable (proof) gal- lons exported.	Percent- age of pro- duction.	Year.	Taxable (proof) gal- lons exported.	Percent- age of pro- duction.
1873	2,358,630	3.45+	1881	15,921,482	13.52+
1874	4,060,160	5.90+	1882	8,092,725	7.64+
1875	587,413	0.96+	1883	5,326,427	7.19+
1876	1,308,900	2.25+	1884	9,580,738	12.70+
1877	2,529,528	4.22+	1885	10,671,118	14.24+
1878	5,490,252	9.80+	1886	5,646,656	7.02+
1879	14,837,581	20.63+	1887	2,223,913	2.85+
1880	10,785,606	18.55+			

The falling off in exportations in 1887 as compared with 1886 is due mainly to the decreased withdrawals for export of Bourbon and rye whiskies and of alcohol, although there was a decrease as to all kinds except gin and miscellaneous spirits, as follows:

	Gallons.
of Bourbon whisky	1,728,242
of rye whisky	202,833
of alcohol	1,436,475
of rum	33,491
of high wines	2,222
of pure, neutral, or cologne spirits	39,582
Total decrease	3,442,845
Deduct increase in—	
Gin	2,717
Miscellaneous	17,385
Total increase	20,102
Net decrease	3,422,743

STATEMENT, BY DISTRICTS AND KINDS, OF THE QUANTITY OF SPIRITS WITHDRAWN FROM DISTILLERY WAREHOUSES FOR SCIENTIFIC PURPOSES AND FOR THE USE OF THE UNITED STATES DURING THE YEAR ENDED JUNE 30, 1887.

[Quantities in gallons.]

District and State.	Bourbon whisky.	Rye whisky.	Alcohol.	Pure, neutral, or cognac spirits.	Aggregate.
First California.....				446	446
First Illinois.....			3,387	209	3,606
Fifth Illinois.....			9,356	344	9,700
Sixth Indiana.....		488	437		925
Seventh Indiana.....			393		393
Second Iowa.....				261	261
Fifth Kentucky.....	402		141		543
Sixth Kentucky.....			171		171
Maryland.....		233	709	53	994
First Missouri.....			350		350
Nebraska.....			444		444
First New York.....			868		868
Twenty-eighth New York.....			1,004		1,004
First Ohio.....			1,313		1,313
First Wisconsin.....			90		90
Total.....	402	720	18,673	1,373	21,168
Withdrawn for scientific purposes and for the use of the United States during year ended June 30, 1886.....	7,000		20,798	2,795	30,602

DECREASED WITHDRAWALS OF SPIRITS FOR SCIENTIFIC PURPOSES AND USE OF THE UNITED STATES.

The above table shows a decrease of spirits withdrawn for scientific purposes and for the use of the United States of 9,434 gallons from the quantity so withdrawn in the fiscal year ended June 30, 1886, as follows:

	Gallons.
Decrease of—	
Bourbon whisky	6,607
Alcohol.....	2,125
Pure, neutral, or cognac spirits.....	1,422
Total decrease	10,154
Deduct increase as to rye whisky	720
Net decrease.....	9,434

TRANSFERS OF SPIRITS FROM DISTILLERY WAREHOUSES TO MANUFACTURING WAREHOUSES.

STATEMENT OF THE QUANTITY OF SPIRITS WITHDRAWN FOR TRANSFER TO MANUFACTURING WAREHOUSES DURING THE YEAR ENDED JUNE 30, 1887.

[Quantities in gallons.]

District and State.	Bourbon whisky.	Rye whisky.	Alcohol.	Pure, neutral, or cognac spirits.	Miscellaneous.	Aggregate.
First Illinois.....				9,742		9,742
Fifth Illinois.....			13,919	57,572		71,491
Second Iowa.....				144,423		144,423
Fifth Kentucky.....	1,621					1,621
Seventh Kentucky.....						
Twenty-third Pennsylvania.....					1,829	1,829
Total	1,621		13,919	211,737	1,829	228,306
Transfers to manufacturing warehouses during year ended June 30, 1886.....	4,621	1,512	31,738	238,382		276,253

* Corn and rye, Montrose.

DECREASED TRANSFERS OF SPIRITS FROM DISTILLERY WAREHOUSES
TO MANUFACTURING WAREHOUSES.

As compared with transfers in 1886 the above table shows a decrease of 47,047 gallons in the quantity of spirits transferred to manufacturing warehouses, distributed as follows:

Decrease in—	Gallons.
Bourbon whisky	3,000
Rye whisky	1,512
Alcohol	17,819
Pure, neutral, or cognole spirits	26,645
Total decrease	48,976
Deduct increase in miscellaneous	1,929
Net decrease	47,047

SPIRITS LOST BY CASUALTY IN WAREHOUSES DURING THE YEAR.

STATEMENT OF THE QUANTITY OF SPIRITS LOST BY CASUALTY IN DISTILLERY WAREHOUSES DURING THE YEAR ENDED JUNE 30, 1887.

[Quantities in gallons.]

District and State.	Bourbon whisky.	Rye whisky.	Alcohol.	Rum.	Miscellaneous.	Aggregate.	Specific kind of spirits reported in "Miscellaneous" column.
Arkansas					78	78	Corn whisky.
Georgia					2,286	2,286	Corn whisky.
Fifth Illinois	6,377		2,696			9,073	
Sixth Indiana	1	86				87	
Second Kentucky	166,571					166,571	
Fifth Kentucky	22,969					22,969	
Sixth Kentucky	28,457	7,188	1,141	176	27,535	64,497	Whisky and malt whisky.
Seventh Kentucky	142					142	
Eighth Kentucky	1,446	93				1,539	
Third Massachusetts				45		45	
Fourth North Carolina					160	160	Corn whisky.
Fifth North Carolina					1,862	1,862	Corn whisky.
Sixth North Carolina					4,060	4,060	Corn.
Twenty-second Pennsylvania		85				85	
South Carolina					239	239	Corn whisky.
Second Tennessee					40	40	
Fifth Tennessee					4,838	4,838	Corn whisky.
Fourth Virginia	1,088	113				1,201	
North Virginia		4,989				4,989	
West Virginia		951				951	
Fourth Missouri	4,893	1,055				5,948	
Total	231,964	14,560	3,837	221	41,098	291,680	
Losses by casualty during the year ended June 30, 1886	4,436	10,764	2	10	100,165	115,397	

Of the 291,680 gallons shown by the above table to have been lost during the fiscal year 1887, 252,864 gallons are claimed to have been lost by four fires, as follows: 165,815 gallons by two fires in the second district of Kentucky, 22,865 gallons by one fire in the fifth district of Kentucky, and 64,184 gallons by one fire in the sixth district of Kentucky.

DIFFERENT KINDS OF SPIRITS PRODUCED, WITHDRAWN, AND REMAINING IN WAREHOUSE FOR LAST TWO FISCAL YEARS.

STATEMENT OF THE QUANTITY OF DISTILLED SPIRITS OF THE DIFFERENT KINDS KNOWN TO THE TRADE, PRODUCED, WITHDRAWN, AND REMAINING IN WAREHOUSE IN THE UNITED STATES FOR THE FISCAL YEARS ENDED JUNE 30, 1886, AND JUNE 30, 1887, RESPECTIVELY.

Distilled spirits.	Bourbon whisky.		Rye whisky.		Alcohol.		Rum.		Gin.		High wines.		Pure-neutral or cologne-spirits.		Misc.		Total.
	Gallons.	Gallons.	Gallons.	Gallons.	Gallons.	Gallons.	Gallons.	Gallons.	Gallons.	Gallons.	Gallons.	Gallons.	Gallons.	Gallons.	Gallons.	Gallons.	
Dr.																	
1. Remaining in warehouse July 1, 1885.....	23,123,843	13,650,389	750,419	680,269	90,231	157,404	2,396,218	26,538,581	10,513,756	80,344,380	4,772,114	1,482,377	4,772,114	54,724,910			
2. Produced and bonded during the year.....	10,318,819	7,842,540	11,247,877	1,790,923	656,607	2,396,218	2,396,218	26,538,581	10,513,756	80,344,380	4,772,114	1,482,377	4,772,114	54,724,910			
Total	32,442,462	21,492,829	11,998,296	2,468,161	755,838	2,592,436	2,592,436	26,538,581	10,513,756	80,344,380	4,772,114	1,482,377	4,772,114	54,724,910			
Cr.																	
3. Withdrawn on payment of tax during the year.....	14,080,823	5,132,634	8,861,247	922,685	675,653	2,400,880	4,441	26,434,299	10,388,873	69,096,900	1,773,174	14,479	1,773,174	1,806,468			
4. Lost by leakage or evaporation in warehouse.....	1,039,100	4,071	18,117	18,117	1,511	4,441	2,222	323,967	14,335	5,616,656	2,795	2,795	2,795	276,253			
5. Withdrawn for scientific purposes during the year.....	1,948,042	250,368	2,320,381	749,038	753	2,222	2,222	2,795	109,185	115,397	983,246	983,246	983,246	58,096,029			
6. Withdrawn for transfer to manufacturing warehouse.....	7,009	1,512	30,798	10	10	186,103	186,103	983,246	4,439,363	58,096,029	1,773,174	1,773,174	1,773,174	1,806,468			
7. Lost by casualty, etc., during the year.....	4,631	10,764	31,739	739,701	77,921	186,103	186,103	983,246	4,439,363	58,096,029	1,773,174	1,773,174	1,773,174	1,806,468			
8. Remaining in warehouse June 30, 1886.....	25,360,622	15,549,568	760,076	739,701	77,921	186,103	186,103	983,246	4,439,363	58,096,029	1,773,174	1,773,174	1,773,174	1,806,468			
Total	52,442,462	31,492,829	11,998,296	2,468,161	755,838	2,592,436	2,592,436	26,538,581	10,513,756	80,344,380	4,772,114	1,482,377	4,772,114	54,724,910			
Dr.																	
1. Remaining in warehouse July 1, 1886.....	35,360,623	15,549,568	760,076	739,701	77,921	186,103	186,103	983,246	4,439,363	58,096,029	1,773,174	1,773,174	1,773,174	1,806,468			
2. Produced and bonded during the year.....	17,015,034	7,313,640	10,337,035	1,857,223	747,025	2,410,923	2,410,923	27,060,219	11,084,500	77,851,599	4,439,363	27,060,219	4,439,363	77,851,599			
Total	52,375,657	22,863,208	11,097,111	2,596,924	854,946	2,597,026	2,597,026	26,049,465	15,523,863	135,948,229	4,439,363	27,060,219	4,439,363	77,851,599			
Cr.																	
3. Withdrawn on payment of tax during the year.....	10,102,919	4,722,335	9,817,164	1,097,322	734,373	2,411,527	2,411,527	27,060,219	11,084,500	77,851,599	4,439,363	27,060,219	4,439,363	77,851,599			
4. Lost by leakage or evaporation in warehouse.....	1,019,234	579,368	6,735	21,763	1,463	5,834	5,834	284,365	31,690	2,222,913	1,773,174	1,773,174	1,773,174	1,806,468			
5. Withdrawn for scientific purposes during the year.....	217,800	47,535	883,846	756,147	3,470	2,222	2,222	2,795	109,185	115,397	983,246	983,246	983,246	58,096,029			
6. Withdrawn for transfer to manufacturing warehouse.....	1,021	1,621	13,019	10	10	186,103	186,103	983,246	4,439,363	58,096,029	1,773,174	1,773,174	1,773,174	1,806,468			
7. Lost by casualty, etc., during the year.....	231,964	14,580	3,807	752,471	85,610	179,037	179,037	983,246	4,439,363	58,096,029	1,773,174	1,773,174	1,773,174	1,806,468			
8. Remaining in warehouse June 30, 1887.....	40,801,717	17,498,692	3,822,896	752,471	85,610	179,037	179,037	983,246	4,439,363	58,096,029	1,773,174	1,773,174	1,773,174	1,806,468			
Total	52,375,657	22,863,208	11,097,111	2,596,924	854,946	2,597,026	2,597,026	26,049,465	15,523,863	135,948,229	4,439,363	27,060,219	4,439,363	77,851,599			

* Including 1 gallon bourbon whisky—an error in former exports corrected.

REPORT OF THE SECRETARY OF THE TREASURY. 147

The following table shows the quantity of distilled spirits in taxable gallons at 90 cents tax placed in distillery warehouses during the fiscal year ended June 30, 1887, the quantity withdrawn therefrom during the year, and the quantity remaining therein at the beginning and close of the year:

SUMMARY OF OPERATIONS AT DISTILLERY WAREHOUSES FOR THE YEAR ENDED JUNE 30, 1887.

Distilled spirits—	Quantity.	Total.
	<i>Gallons.</i>	<i>Gallons.</i>
Actually remaining in warehouse July 1, 1886	58,093,631	
Outstanding balances on seven months' export bonds	2,989	
Not actually in warehouse, claimed to have been lost by casualty	280,310	
Withdrawn for exportation, proofs of landing not received	6,410,263	
Withdrawn for transfer to manufacturing warehouse, not yet received at warehouse	47,173	
		64,784,806
Produced from July 1, 1886, to June 30, 1887		77,831,599
Total		142,615,965
Withdrawn tax-paid (including deficiencies on export bonds and casualties disallowed)	66,202,375	
Exported, proofs of landing received	4,474,174	
Allowed for loss by casualty	286,042	
Withdrawn for scientific purposes and for the use of the United States	21,168	
Allowed for loss by leakage or evaporation in warehouse	1,833,838	
Allowed for loss by leakage in transportation for exports, etc	23,998	
Withdrawn for transfer to and received at manufacturing warehouse	265,410	
		73,107,005
Withdrawn for exportation, proofs of landing not received	4,126,474	
Withdrawn for transfer to manufacturing warehouse, not received at warehouse	10,608	
Not actually in warehouse, claimed to have been lost by casualty	226,609	
Outstanding balances on seven months' export bonds	2,782	
All other spirits remaining in warehouse June 30, 1887	65,142,487	
		60,508,960
Total		142,615,965

STOCK ON HAND, PRODUCTION, AND MOVEMENT OF SPIRITS FOR FIVE YEARS.

The following table shows the stock on hand, production, and movement of spirits for the fiscal years 1883, 1884, 1885, 1886, and 1887:

	1883.	1884.	1885.	1886.	1887.
	<i>Gallons.</i>	<i>Gallons.</i>	<i>Gallons.</i>	<i>Gallons.</i>	<i>Gallons.</i>
Quantity of spirits actually in warehouses beginning of fiscal year	89,902,645	80,409,993	63,502,551	54,724,916	*58,096,021
Quantity of spirits produced during fiscal year	74,013,308	75,435,739	74,915,363	80,344,380	77,831,599
Total	163,975,953	155,935,732	138,417,914	135,069,296	135,928,220
Quantity of spirits withdrawn tax-paid during fiscal year	75,441,087	78,342,474	67,040,321	60,006,900	66,183,303
Quantity of spirits withdrawn for exportation during fiscal year	5,326,427	9,586,738	10,671,118	5,646,056	2,223,913
Quantity of spirits withdrawn for scientific purposes, for use of United States, for transfer to manufacturing warehouse, destroyed by fire, allowed for loss by leakage in warehouses, etc	2,708,446	4,503,900	5,372,559	2,220,120	2,375,735
Total	83,475,960	92,433,111	83,082,998	76,972,076	70,782,951
Quantity in warehouses	89,468,998	80,502,551	64,724,916	58,096,620	65,145,260

Rem. Error corrected.

SPIRITS REMAINING IN WAREHOUSES AT THE CLOSE OF THE YEAR—

The following table shows the quantity of spirits remaining in distillery warehouses at the close of each of the nineteen fiscal years during which spirits have been stored in such warehouses :

Date.	Quantity.	Date.	Quantity.
	<i>Gallons.</i>		<i>Gallons.</i>
Remaining June 30, 1869.....	16,685,166	Remaining June 30, 1879.....	19,212,470
Remaining June 30, 1870.....	11,671,886	Remaining June 30, 1880.....	31,365,889
Remaining June 30, 1871.....	6,744,360	Remaining June 30, 1881.....	64,648,111
Remaining June 30, 1872.....	10,103,302	Remaining June 30, 1882.....	89,648,645
Remaining June 30, 1873.....	14,650,148	Remaining June 30, 1883.....	80,492,693
Remaining June 30, 1874.....	15,575,224	Remaining June 30, 1884.....	63,562,321
Remaining June 30, 1875.....	13,179,566	Remaining June 30, 1885.....	54,724,918
Remaining June 30, 1876.....	12,595,850	Remaining June 30, 1886.....	56,096,629
Remaining June 30, 1877.....	13,691,773	Remaining June 30, 1887.....	65,145,297
Remaining June 30, 1878.....	14,088,773		

SPIRITS IN DISTILLERY WAREHOUSES OCTOBER 1, 1883, 1884, 1885, 1886, AND 1887.

Following is a statement of the quantities of spirits remaining in distillery warehouses October 1, 1883, 1884, 1885, 1886, and 1887, respectively :

States.	Gallons.				
	1883.	1884.	1885.	1886.	1887.
Alabama.....	3,134	2,400	1,847	190	.....
Arkansas.....	20,328	40,422	38,076	37,603	28,074
California.....	260,148	124,184	42,957	22,071	24,822
Colorado.....	.....	.....	.....	.....	.....
Connecticut.....	6,866	13,543	20,412	15,210	15,946
Delaware.....	.....	.....	708	459	.....
Georgia.....	62,254	39,220	41,858	36,981	32,506
Idaho.....	.....	.....	.....	.....	.....
Illinois.....	1,174,012	1,535,527	1,383,131	1,575,316	2,018,321
Indiana.....	1,235,690	968,910	1,239,890	1,290,801	1,241,119
Iowa.....	19,038	81,892	48,798	60,438	18,470
Kansas.....	21,088	11,020	12,076	9,216	.....
Kentucky.....	52,210,174	35,351,017	29,554,919	34,079,071	39,609,726
Maryland.....	3,349,798	2,647,133	2,944,563	3,994,056	4,094,385
Massachusetts.....	493,205	542,632	537,851	616,863	656,649
Montana.....	131	2,766	446	.....	.....
Missouri.....	195,316	262,349	208,600	303,142	343,342
Nebraska.....	164,322	130,942	81,913	186,990	195,254
New Hampshire.....	82,407	81,242	34,089	20,842	28,493
New Jersey.....	142,120	187,170	61,836	199,563	223,318
New York.....	242,470	302,127	439,547	528,604	423,118
North Carolina.....	154,151	189,362	88,953	126,961	121,995
Ohio.....	2,758,831	2,036,127	2,120,167	2,429,413	3,036,818
Oregon.....	2,022	8,383	16,058	18,078	19,967
Pennsylvania.....	8,056,339	6,723,169	6,149,693	6,629,889	7,749,718
South Carolina.....	12,532	17,202	10,149	14,631	16,257
Tennessee.....	1,527,574	1,408,658	1,133,935	992,961	733,674
Texas.....	6,340	7,033	8,498	11,538	8,483
Virginia.....	224,130	248,951	234,006	218,026	148,646
West Virginia.....	857,485	667,972	614,158	804,624	761,546
Wisconsin.....	163,852	167,563	94,113	60,579	96,721
Total.....	73,405,861	53,749,246	47,158,358	54,803,818	61,608,377

SPIRITS WITHDRAWN FOR EXPORT DURING FIRST THREE MONTHS
OF PRESENT FISCAL YEAR.STATEMENT SHOWING, BY DISTRICTS, THE NUMBER OF GALLONS OF EACH KIND OF
SPIRITS REMOVED FOR EXPORT DURING THE MONTHS OF JULY, AUGUST, AND
SEPTEMBER, 1887.

Districts.	Bourbon whisky.	Rye whisky.	Alcohol.	Rum.	Pure, neutral, or cognac spirits.	Miscellaneous.	Total.
Fifth Illinois.....			43,889				43,889
Sixth Indiana.....			2,179			210	2,389
Fifth Kentucky.....	755	480					1,185
Sixth Kentucky.....	733					451	1,184
Seventh Kentucky.....	7,713	329					8,042
Maryland.....		1,134					1,134
Third Massachusetts.....				197,680			197,680
Nebraska.....			14,716		37,386		52,102
First New York.....					1,304		1,304
Twenty-third Pennsylvania.....		9,406					9,406
Fifth Tennessee.....		14,128					14,128
Total.....	9,201	25,427	60,784	197,680	38,690	661	332,443

OPERATIONS AT SPECIAL BONDED WAREHOUSES FOR STORAGE OF
GRAPE BRANDY.

The following statement shows the quantity of grape brandy placed
in special bonded warehouses, withdrawn therefrom, and remaining
therein at the beginning and close of the fiscal year ended June 30,
1887:

	Gallons.	Gallons.	Gallons.
Remaining in warehouse July 1, 1886:			
First district of California.....	196,484		
Fourth district of California.....	117,890		
		314,374	
Removed for export and unaccounted for July 1, 1886:			
First district of California.....		1,004	
Fourth district of California.....		529	
			315,907
Produced and bonded during the year:			
Produced and warehoused in first district of California.....	402,569		
Produced in fourth district of California, and warehoused in first district of California.....	55,860		
		458,429	
Produced and warehoused in fourth district of California....	213,413		
Produced and warehoused in fourth district of North Carolina.....	1,768		
			673,610
Received in warehouses of first district of California from fourth district of California.....			11,116
			1,000,633

	Gallons.	Gallons.	Gallons—
Exported and accounted for during the year:			
First district of California.....	1,341		
Fourth district of California.....	11,882		
		13,223	
Removed, tax-paid, during the year:			
First district of California.....	215,328		
Fourth district of California.....	67,967		
		283,295	
Loss by regauge, act of May 28, 1880:			
First district of California.....	7,447		
Fourth district of California.....	4,683		
		12,130	
Shipped from warehouses in the fourth district of California to first district of California.....			308,648
Removed for exportation, and remaining unaccounted for June 30, 1887:			
First district of California.....	1,756		
Fourth district of California.....	287		
		2,043	
Transferred to other collectors, and not accounted for:			
First district of California, in transit to first district of New York.....	4,315		
Fourth district of California, in transit to first district of California, 2,668 gallons; to first district of New York, 13,667 gallons.....	16,335		
		20,650	
Remaining in warehouse June 30, 1887:			
First district of California.....	436,846		
Fourth district of California.....	219,562		
Fourth district of North Carolina.....	1,768		
		658,176	
			680,869
			1,000,633

Of the 673,610 gallons grape brandy bonded during the fiscal year, 402,569 gallons were produced in the first district of California, 269,273 gallons in the fourth district of California, and 1,768 gallons in the fourth district of North Carolina.

The total product bonded was 343,931 gallons more than in the previous year; the amount removed, tax-paid, was 97,493 gallons less, and the loss resulting from regauge under act of May 28, 1880, was 3,298 gallons less than in 1886.

Of the quantity in warehouse June 30, 1887, 436,846 gallons were in the following warehouses in the first district of California:

	Gallons.
No. 1. Bode & Haslett.....	134,106
No. 2. Juan Bernard.....	183,533
No. 3. George C. Carlon.....	15,215
No. 4. James M. Tiernan.....	84,833
No. 5. Snyder, Foss & Co.....	19,159

And 219,562 gallons were in the following warehouses in the fourth district of California:

	Gallons.
No. 1. E. B. Carroll.....	66,231
No. 2. W. E. McConnell.....	31,954
No. 3. W. A. C. Smith.....	66,833
No. 4. John Tivnen.....	24,788
No. 5. H. B. Schackelford.....	29,736

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And 1,768 gallons were in the following warehouse in the fourth district of North Carolina :

	Gallons.
No. 1. Benjamin R. Taylor.....	1,768

DISTILLED SPIRITS IN THE UNITED STATES, OCTOBER 1, 1887.

The quantity of distilled spirits in the United States, except what may be in customs bonded warehouses, on the 1st day of October, 1887, was 104,439,386 gallons, this quantity being distributed as follows:

	Gallons.
In distillery and special bonded warehouses.....	61,608,377
In hands of wholesale liquor dealers.....	14,614,959
In hands of retail liquor dealers.....	28,216,050
Total.....	104,439,386

In making the above computation the average stock of each retail-liquor dealer in the United States is estimated at 150 gallons.

EXPORTATION OF MANUFACTURED TOBACCO AND SNUFF IN BOND.

The subjoined table shows, as removed and unaccounted for July 1, 1886, and June 30, 1887, the quantity in pounds of manufactured tobacco and snuff which had been removed for exportation in bond and concerning which the proof of exportation required by law had not been furnished prior to the dates named :

	Pounds.
1. Removed and unaccounted for July 1, 1886 :	
Tobacco at 8 cents tax removed under exportation bonds.....	1,144,061½
2. Removed during the year ended June 30, 1887 :	
Tobacco at 8 cents tax, under exportation bonds.....	13,728,932½
Total.....	14,872,994½
3. Exported and accounted for during the year :	
Tobacco at 8 cents tax under exportation bonds	13,585,524½
Tobacco at 8 cents tax paid on deficiencies.....	15,037½
Total	13,600,561½
4. Remaining unaccounted for at the close of the fiscal year ended June 30, 1887 :	
Tobacco at 8 cents tax, under exportation bonds	1,272,432½
Total.....	14,872,994½

EXPORTATION OF CIGARS AND CIGARETTES IN BOND.

	Number of cigars, at \$3 per M.	Number of cigarettes, at 50 cents per M.
1. Removed and unaccounted for July 1, 1887	57,600	12,234,500
2. Removed during the year ended June 30, 1887	1,895,050	159,935,300
Total	1,952,050	152,165,800
3. Exported and accounted for during the year ended June 30, 1887	1,851,050	139,945,300
Tax paid on deficiencies in export		20,000
Total	1,851,050	139,965,300
4. Remaining unaccounted for at the close of the fiscal year ended June 30, 1887	101,000	12,200,500
Total	1,952,050	152,165,800

REIMPORTED DOMESTIC SPIRITS IN CUSTOMS WAREHOUSES.

The following table shows the quantity of reimported domestic spirits in the several customs warehouses in the United States March 31, 1887, the quantity remaining which was imported within the first month after the Department order allowing such storage was issued; also the quantity remaining for shorter periods as specified :

STATEMENT IN PROOF GALLONS OF REIMPORTED DOMESTIC SPIRITS IN CUSTOMS WAREHOUSES, MARCH 31, 1887.

Port.	Quantity which prior to March 31, 1887, had remained in warehouse fully—					
	1 month and less.	2 months.	3 months.	4 months.	5 months.	6 months.
Albany, N. Y					178	
Baltimore, Md	29,182	1,190	17,179	5,394	6,283	4,511
Bangor, Me		336			103	
Boston and Charlestown, Mass	19,144	2,244		8,784	1,758	3,360
Chicago, Ill	7,939	561	1,938	1,875	781	911
Cincinnati, Ohio	27,523	28,537	12,510	4,844	7,084	5,703
Denver, Colo	1,430					
Galveston, Tex				516	767	
Genesee, N. Y						3,363
Indianapolis, Ind	366	369		915		3,790
Kansas City, Mo			196		74	
Louisville, Ky	88,490	12,645	7,136	39,965	8,540	8,857
Memphis, Tenn	919	1,241	3,011	3,170		
Middletown and Hartford, Conn	797					
Milwaukee, Wis	1,652	594	980			
New Haven, Conn	75	294				
New York, N. Y						
Philadelphia, Pa	6,504	3,046	319	1,748		3,798
Pittsburgh, Pa	8,674	1,729	909	6,099	1,324	1,324
Saint Paul, Minn	2,000					
San Francisco, Cal		55,290	5,351	5,226	2,654	2,475
Saint Louis, Mo	7,919	3,304	1,559	1,115	3,681	2,239
Wheeling, W. Va					1,435	
	202,614	111,400	51,118	79,681	34,662	40,341

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STATEMENT IN PROOF GALLONS OF REIMPORTED DOMESTIC SPIRITS IN CUSTOMS
WAREHOUSES MARCH 31, 1887—Continued.

Port.	Quantity which prior to March 31, 1887, had remained in warehouse fully—					Totals.
	7 months.	8 months.	9 months.	10 months.	11 months.	
Albany, N. Y.					509	687
Baltimore, Md.	764	917	1,563	1,807	5,075	74,765
Danvers, Me.						439
Boston and Charlestown, Mass.	4,106	1,600				40,896
Chicago, Ill.			2,225			16,230
Cincinnati, Ohio	4,964	728	4,022		1,186	97,121
Denver, Colo.						1,430
Galveston, Tex.						1,283
Genesee, N. Y.	1,333			949		5,665
Indianapolis, Ind.						5,430
Kansas City, Mo.	758		182			1,210
Louisville, Ky.		8,879	10,690	8,213		193,115
Memphis, Tenn.	200					8,541
Middletown and Hartford, Conn.						797
Milwaukee, Wis.		872				3,598
New Haven, Conn.						369
New York, N. Y.						304,433
Philadelphia, Pa.	1,554	3,517	3,991	32,309	7,014	64,430
Pittsburgh, Pa.	1,184	3,380				24,623
Saint Paul, Minn.						2,000
San Francisco, Cal.	6,111					77,107
Saint Louis, Mo.	8,057	3,971	673		709	33,257
Wheeling, W. Va.						1,435
Total	29,031	22,864	23,516	43,278	15,993	1,018,961

DRAWBACK ALLOWED ON EXPORTED MERCHANDISE.

STATEMENT OF DRAWBACK OF INTERNAL-REVENUE TAXES ALLOWED ON EXPORTED
MERCHANDISE DURING THE FISCAL YEAR ENDED JUNE 30, 1887.

Port.	Number of claims.	Tobacco.	Cigars and cigarettes.	Fermented liquors.	Distilled spirits.	Still.	Total.
Baltimore	1	\$279.46					\$279.46
Boston	13		\$15.00	\$172.48		\$20.00	207.48
Milwaukee	101			4,569.43			4,569.43
New Orleans	7	50.40	94.75	9.25			154.40
New York	279	1,186.96		4,472.03	\$1,482.30	80.00	7,221.29
Perkins	7			65.47			65.47
Saint Louis	184			9,569.21			9,569.21
Saint Vincent	8			293.25			293.25
San Francisco	267	3,753.72	858.87	2,087.82	4,273.20	40.00	11,013.61
Total	677	5,270.54	968.62	21,238.94	5,755.50	140.00	33,373.00

RECAPITULATION OF DRAWBACK OF INTERNAL-REVENUE TAXES ALLOWED DURING THE FISCAL YEARS 1863 TO 1887, INCLUSIVE.

Period.	Number of claims.	Properly-entitled articles.	Tobacco.	Salt.	Cigars and cigarettes.
Allowed 1863 to 1870 inclusive.	73	44,107 34	\$7,492 32		
Allowed 1871	56	3,702 34	5,000 00		
Allowed 1872	744	1,754 74	12,113 50		\$230.50
Allowed 1873	473	1,707 37	12,116 00		1,044.97
Allowed 1874	742	1,483 37	1,707 60	\$26.00	1,232.43
Allowed 1875	459	600 23	1,700 00		1,496.12
Allowed 1876	1,111	1,100 80	1,600 00		2,195.37
Allowed 1877	1,124	1,400 04	1,700 00	62.00	3,672.08
Allowed 1878	1,100	47 00	1,700 00		901.73
Allowed 1879	1,100		1,700 00	1.00	661.25
Allowed 1880	1,100		1,700 00		901.62

Period.	Permitted liquors.	Permitted spirits.	Salt.	Miscellaneous.	Total.
Allowed 1863 to 1870 inclusive.					\$4,673,845.00
Allowed 1871	876 30			\$8277 11	35,092.40
Allowed 1872	90 00	875 9			37,128.67
Allowed 1873	32 00	1,456 2			57,509.34
Allowed 1874	2,000 42			\$1,744.00	61,736.27
Allowed 1875	1,100 00	1,101 00			46,849.26
Allowed 1876	2,073 18	1,200 00			48,110.34
Allowed 1877	6,000 00	4,000 00		\$200.92	55,000.94
Allowed 1878	14,000 00	8,000 00	400 00		52,000.41
Allowed 1879	18,162 71	7,000 00			59,000.22
Allowed 1880	2,073 18	6,612 00			34,765.19
Allowed 1881	21,000 00	8,735 00	14 00		33,379.00
Total.					7,170,950.72

a Manufactured cotton exported prior to 1866. b Manufacture exported prior to 1866.
c Cigars exported prior to 1866.

THE OLEOMARGARINE LAW.

The act of August 2, 1886, defining butter and imposing a tax upon and regulating the manufacture, sale, importation, and exportation of oleomargarine, was in force during the last eight months of the fiscal year ended June 30, 1887. The receipts under this act during these eight months aggregated \$723,948.04, of which \$435,924.04 is the tax on 21,796,202 pounds of oleomargarine at 2 cents per pound; \$31,700 are the special taxes paid by manufacturers; \$101,400 the special taxes paid by wholesale dealers, and \$154,924 the special taxes paid by retail dealers in oleomargarine. By dividing the total receipts by the number of pounds removed for consumption or sale the tax per pound is found to be 3 cents and three-tenths of a cent \$3.033.

During the first four months of the current fiscal year the receipts under the oleomargarine law amounted to \$226,100.66, making the total receipts for the first year in which the law has been in force \$950,048.70.

The following statements show (1) the receipts from all sources under this law from each district, and in aggregate, during the eight months ended June 30, 1887; (2) the number of special-tax payers under the law October 31, 1886, to April 30, 1887, and May 1 to June 30, 1887, inclusive, respectively; and (3) a summary of operations at manufacturing for the eight months ended June 30, 1887.

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UNDER THE OLEOMARGARINE LAW DURING EIGHT MONTHS ENDED JUNE 30, 1887.

Districts.	Tax 2 cents per pound.	Manufacturers.	Retail dealers.	Wholesale dealers.	Total.
	\$8.88		\$368.00	\$660.00	\$1,336.88
	48.46		2,430.00	2,720.00	5,198.46
	7,470.42	\$1,600.00	2,388.00	3,160.00	14,618.42
	3,801.54	600.00	6,440.00	2,280.00	13,121.54
	57.66		592.00		649.66
	2.00		188.00	240.00	430.00
	40.44		412.00	240.00	692.44
	211,088.42	9,700.00	28,582.00	11,540.00	260,910.42
	8.22		954.00		962.22
	7.82		196.00		203.82
	152.04		536.00	240.00	978.04
	34.76		1,468.00	480.00	1,982.76
	1.78		348.00	720.00	1,069.78
	20.10		576.00	240.00	836.10
	4.36		196.00		200.36
	55,033.04	1,100.00	252.00		56,385.04
			24.00	240.00	264.00
	25,727.80	2,200.00	3,964.00	680.00	32,571.80
			128.00		128.00
	7.64		1,668.00	1,800.00	3,475.64
	60.02		2,752.00	720.00	3,532.02
	2.50		400.00		402.50
			56.00		56.00
	19.40		482.00	1,680.00	2,181.40
			408.00	80.00	488.00
	47.70		1,152.00	480.00	1,679.70
	13,332.60	1,100.00	17,044.00	16,760.00	48,276.60
	142.10		3,308.00	1,960.00	5,410.10
	1,475.84		9,222.00	6,400.00	17,097.84
	388.54		1,724.00	2,000.00	4,112.54
	54.62		76.00	720.00	850.62
			108.00		108.00
	42.14		344.00	806.00	1,186.14
			80.00		80.00
	6.98		3,462.00	2,960.00	6,808.98
	392.32		9.00	3,120.00	4,492.32
	65.14		1,668.00	1,800.00	2,933.14
			76.00	920.00	996.00
	20		1,178.00	160.00	1,338.20
	50.04		1,232.00		1,282.04
	17.12		936.00		953.12
	66.06		2,516.00	1,440.00	4,022.06
	122.56		1,414.00	1,520.00	3,056.56
	17,166.88	1,000.00	1,804.00		19,970.88
	16,544.72	1,500.00	684.00	3,120.00	21,848.72
	54.02		2,286.00	720.00	3,010.02
	1.80		296.00	240.00	537.80
	6.50		216.00		222.50
	42.50		84.00		126.50
	2,307.34	1,100.00	1,000.00	480.00	4,887.34
			41.00		44.00
	214.64		5,584.00	2,400.00	8,198.64
			56.00		56.00
	10.64		288.00		298.64
	1,657.60	500.00	1,156.00		3,313.60
	11,772.68	2,100.00	2,680.00	1,280.00	17,832.68
	4,779.82	3,300.00	4,916.00	2,320.00	15,315.82
			204.00		204.00
	21.66		336.00		357.66
			284.00		284.00
	2,894.36	500.00	6,201.00	3,320.00	12,915.36
	2,367.22	500.00	3,140.00	240.00	6,247.22
	55,987.36	4,900.00	15,868.00	7,520.00	84,275.36
			248.00		248.00
			1,776.00	3,080.00	4,856.00
	35.56		148.00		183.56
	95.20		360.00	1,120.00	1,575.20
	45.40		332.00	2,120.00	2,497.40
	67.34		398.00	240.00	705.34
			24.00		24.00
	52.00		260.00		312.00
	13.26		884.00	640.00	1,547.26
			4.00		4.00
	37.92		256.00	720.00	1,013.92
	4.56		1,236.00	2,840.00	4,080.56
	435,924.04	31,700.00	154,924.00	101,400.00	723,948.04

STATEMENT BY DISTRICTS SHOWING NUMBER OF PERSONS PAYING SPECIAL TAX AS MANUFACTURERS OF AND DEALERS IN OLEOMARGARINE.

Districts.	Manufacturers.		Wholesale dealers.		Retail dealers.		Tot
	Oct. 31, 1886, to April 30, 1887.	May 1, 1887, to June 30, 1887.	Oct. 31, 1886, to Apr 30, 1887.	May 1, 1887, to June 30, 1887.	Oct. 31, 1886, to Apr. 30, 1887.	May 1, 1887, to June 30, 1887.	
Alabama.....			2	1	11	3	
Arkansas.....			6	2	67	20	
Colorado.....	2	1	12	1	86	11	
Connecticut.....		1	6	2	151	66	
Delaware.....					20	2	
Florida.....			1		10		
Georgia.....			1		12	4	
First Illinois.....	11	7	28	11	384	321	
Second Illinois.....					22	8	
Fourth Illinois.....					4	2	
Fifth Illinois.....			1		38	4	
Eighth Illinois.....			2		74	14	
Thirteenth Illinois.....			3		13	2	
Sixth Indiana.....			1		22	7	
Seventh Indiana.....					17		
Eleventh Indiana.....	1	1			7	3	
Second Iowa.....			1		1		
Kansas.....	2	2	4	1	135	36	
Second Kentucky.....					11		
Fifth Kentucky.....			4	2	42	20	
Sixth Kentucky.....			1	1	62	34	
Seventh Kentucky.....					11	5	
Eighth Kentucky.....					1	1	
Louisiana.....			5	1	19	1	
Maine.....			1		9	5	
Maryland.....			2		29	12	
Third Massachusetts.....	1	1	42	14	2,708	209	
Tenth Massachusetts.....			4	2	371	38	
First Michigan.....			11	6	230	111	
Fourth Michigan.....			7	1	104	12	
Minnesota.....			3		4		
Mississippi.....					5		
First Missouri.....			2	1	20	5	
Fourth Missouri.....					3	1	
Sixth Missouri.....			4	4	150	49	
Montana.....			10	3	34	9	
Nebraska.....			4	2	41	5	
Nevada.....			2	1			
New Hampshire.....			1		24	15	
First New Jersey.....					42	4	
Third New Jersey.....					32	4	
Fifth New Jersey.....			5	2	100	4	
New Mexico.....			5	1	33	15	
First New York.....	2				71	3	
Second New York.....	3		12		29	1	
Third New York.....			3		101		
Fourteenth New York.....			1		9	2	
Fifteenth New York.....					10		
Twenty-first New York.....					4		
Twenty-eighth New York.....	1	1	2		30	7	
Fourth North Carolina.....					2		
First Ohio.....			6	1	113	70	
Sixth Ohio.....					4		
Tenth Ohio.....					10	3	
Eleventh Ohio.....	1				46	12	
Eighteenth Ohio.....	3	1	6		99	24	
First Pennsylvania.....	3	3	10		171	9	
Ninth Pennsylvania.....					9		
Twelfth Pennsylvania.....					14	1	
Nineteenth Pennsylvania.....					11		
Twenty-second Pennsylvania.....	1		14		227	21	
Twenty-third Pennsylvania.....	1		1		80	11	
Rhode Island.....	5	4	18	6	404	208	
Second Tennessee.....					3	3	
Fifth Tennessee.....			10	2	53	13	
First Texas.....					6		
Third Texas.....			3	1	6	3	
Fourth Texas.....			6	2	20	3	
Second Virginia.....			1		18	2	
Sixth Virginia.....					1		
West Virginia.....					7	4	
First Wisconsin.....			3		22	9	
Second Wisconsin.....					1		
Third Wisconsin.....			1		7	2	
Sixth Wisconsin.....			7	2	30	15	
Total.....	37	22	288	74	6,977	1,488	

The following table shows the quantity of oleomargarine, in pounds, at 2 cents tax, produced at manufactories from November 1, 1886, to June 30, 1887, the quantity withdrawn therefrom during that period, and the stock of oleomargarine remaining in factories June 30, 1887:

SUMMARY OF OPERATIONS AT OLEOMARGARINE MANUFACTORIES FROM NOVEMBER 1, 1886, TO JUNE 30, 1887.

Oleomargarine.	Pounds.	Pounds.
Stock on hand November 1, 1886.....		181,090
Produced from November 1, 1886, to June 30, 1887.....		21,513,537
Total.....		21,694,627
Oleomargarine withdrawn from factories tax-paid.....	20,743,569	
Oleomargarine lost or destroyed in manufactories.....	51,227	
Withdrawn from manufactories for export and accounted for.....	667,831	
		21,462,627
Removed for export not accounted for June 30, 1887.....	56,731	
*Remaining in manufactories June 30, 1887.....	175,299	
		232,000
Total.....		21,694,627

*There were also 8,846 packages, 248,556 pounds, of oleomargarine in the hands of wholesale dealers June 30, 1887.

It will be observed from the second of the foregoing tables that the number of persons and firms who did business under the oleomargarine law prior to May 1, 1887, was 7,302, and that the number of those who did such business during May and June, 1887, was only 1,584, or 5,718 less than the number previously engaged in the business.

The reduction in the volume of business in May and June, indicated by the above figures is due in part to the internal-revenue special taxes, which are heaviest in those months, and due in part to the low price of butter which prevailed in those months.

This view of the case appears to be sustained by the fact that since the close of the fiscal year and up to the present time, October 31, 1887, with the rates of special taxes decreasing and the price of butter rising, the receipts from oleomargarine have been increasing, as follows:

Months.	Dealers' special taxes.		Average price per pound of butter in New York	Receipts from oleomargarine.
	Wholesale	Retail.		
Jan'y, 1887.....	\$400	\$40	Cents. 18.08	\$25,818.80
August, 1887.....	360	36	21.09	59,067.52
September, 1887.....	320	32	21.75	73,792.98
*October, 1887.....	280	28	21.81	68,421.36

* Price October 10. Receipts not quite all reported.

Total receipts for four months..... \$226,100.68
Add total receipts for preceding eight months..... 723,948.04

Total receipts under oleomargarine law to date..... 950,048.70

The addition of nearly a million dollars to the receipts of the United States through the operation of an internal-revenue law taxing an imitation is unprecedented. Heretofore manufacturers of the article taxed either quit business or managed to evade the law. The result was the same in either case. No revenue was derived. In this instance, although the results of the first year's work are encouraging they are not entirely satisfactory. The experience of the year has shown that although the law was modeled upon existing internal-revenue laws in cases most nearly analogous, some changes in the law are needed in order to insure its complete success. It cannot, as an internal-revenue measure, be ro-

garded as entirely successful until the tax is paid on all of the article consumed, and if the question were one of internal revenue simply, I would merely urge that Congress by a joint resolution construe the law as this office construed it in the regulations of August 25, 1886, to impose the tax of 2 cents per pound upon the manufactured substances such as oleomargarine oil which are intended as substitutes for butter fat; also upon the mixtures of such substances with butter and upon imitations made by mixing butter with beef fat, lard, etc.

As stated in my report for the year 1886, the advantage in securing the tax from the manufacturer who derives his material from the slaughtered animals cannot be overestimated. These manufacturers are comparatively few in number. By requiring them to stamp and brand all their products and to keep such books as will indicate the destination thereof such products can be followed to the dealers and through the dealers to the consumers.

At the same time, by the use of a system of exchanging stamps similar to that now in operation as to distilled spirits, the article may be readily identified by the consumers without necessitating the imposition of a second tax.

I have the honor to be, very respectfully,

Hon. CHARLES S. FAIRCHILD,
Secretary of the Treasury.

JOS. S. MILLER,
Commissioner.

REPORT OF THE COMPTROLLER OF THE CURRENCY.

TREASURY DEPARTMENT,
OFFICE OF COMPTROLLER OF THE CURRENCY,
Washington, D. C., December 1, 1887.

SIR: In obedience to law, I have the honor to submit a report for the year ending October 31, 1887, exhibiting—

First. A summary of the state and condition of every association from which reports have been received the preceding year, at the several dates to which such reports refer, with an abstract of the whole amount of banking capital returned by them, of the whole amount of their debts and liabilities, the amount of circulating notes outstanding, and the total amount of means and resources, specifying the amount of lawful money held by them at the times of their several returns.

Second. A statement of the associations whose business has been closed during the year, with the amount of their circulation redeemed and the amount outstanding.

Third. Suggestions as to amendments to the laws relative to banking by which it is thought the system may be improved.

Fourth. A statement exhibiting under appropriate heads the resources and liabilities and condition of the banks, banking companies, and savings banks organized under the laws of the several States and Territories, such information being obtained by the Comptroller from the reports made by such banks, banking companies, and savings banks, to the legislatures or officers of the different States and Territories, and where such reports could not be obtained, the deficiency has been supplied from such other authentic sources as were available.

Fifth. The names and compensation of the clerks employed in the office of the Comptroller of the Currency, and the whole amount of the expenses of the banking department during the year.

This is the twenty-fifth annual report of the Comptroller of the Currency.

REPORT OF THE SECRETARY OF THE TREASURY. 159

FIRST.

SUMMARY OF THE STATE AND CONDITION OF EVERY NATIONAL BANK REPORTING DURING THE YEAR ENDING OCTOBER 31, 1897.

	December 28. 2,875 banks.	March 4. 2,909 banks.	May 13. 2,956 banks.	August 1. 3,014 banks.	October 5. 3,049 banks.
RESOURCES.					
Loans and discounts	\$1,464,360,246.61	\$1,509,261,355.97	\$1,553,768,020.65	\$1,553,751,437.12	\$1,580,045,647.14
Overdrafts	5,967,434.52	6,273,318.70	6,523,781.08	6,620,303.93	7,503,486.62
U. S. bonds to secure circulation	228,184,350.00	211,537,150.00	200,452,300.00	189,032,050.00	189,083,100.00
U. S. bonds to secure deposits	21,010,900.00	22,976,900.00	24,990,500.00	26,402,000.00	27,757,000.00
U. S. bonds on hand	10,576,200.00	9,721,450.00	8,157,250.00	7,808,000.00	6,914,350.00
Other stocks, bonds, and mortgages	81,431,000.66	87,441,034.86	88,031,124.15	88,374,837.99	88,831,000.96
Due from approved reserve agents	142,117,979.28	163,161,181.37	148,067,874.43	140,270,155.75	140,873,587.98
Due from other national banks	88,271,667.96	86,460,829.09	105,576,841.99	99,487,767.80	93,302,413.94
Due from State banks and bankers	21,465,427.68	21,725,805.99	22,746,190.43	20,952,187.86	22,103,677.18
Real estate, furniture, and fixtures	54,763,530.37	55,128,600.78	55,729,098.76	56,951,622.58	57,968,159.71
Current expenses and taxes paid	10,283,007.79	8,064,292.40	7,781,151.97	5,158,940.86	8,253,890.72
Premiums paid	15,160,621.67	15,537,731.2	16,806,431.83	17,853,130.17	17,288,771.85
Checks and other cash items	13,218,973.44	13,308,520.04	13,065,663.79	13,914,070.02	14,691,372.38
Exchanges for clearing-house	70,525,126.92	89,239,194.59	86,829,363.73	128,211,628.48	88,775,457.00
Bills of other banks	26,132,330.00	22,235,206.00	25,183,137.00	22,962,737.00	21,037,881.00
Fractional currency	447,833.09	577,878.03	556,186.75	564,266.72	540,594.50
Trade dollars	1,827,364.20	1,803,661.40	184,203.08	63,671.97	509.25
*Specie, viz.:					
Gold coin	72,855,405.48	73,503,961.00	73,864,674.63	74,093,439.47	73,782,489.62
Gold Treasury certificates	55,259,260.00	59,245,100.00	56,387,010.00	51,274,940.00	53,961,000.00
Gold clearing-house cert's	24,926,000.00	24,500,000.00	21,489,000.00	24,044,000.00	23,961,000.00
Silver coin, dollars	7,463,152.00	7,517,343.00	7,139,180.00	6,343,213.00	6,683,368.00
Silver coin, fractional	2,789,513.53	3,154,893.55	3,314,612.99	2,813,138.81	2,715,526.76
Silver Treasury certificates	3,690,223.00	8,667,008.00	5,121,188.00	3,535,479.00	3,961,360.00
Legal-tender notes	67,739,828.00	66,228,158.00	79,593,088.00	74,477,312.00	73,751,255.00
U. S. certificates of deposit for legal-tender notes	6,195,000.00	7,645,000.00	8,025,000.00	7,810,000.00	6,190,000.00
Five per cent. redemption fund with Treasurer	10,056,128.39	9,280,755.33	8,810,585.35	8,341,088.77	8,310,442.35
Due from Treasurer other than redemption fund	975,376.96	1,856,195.13	1,113,554.81	660,818.42	985,410.14
Aggregate	2,507,753,912.95	2,581,143,115.05	2,629,314,022.42	2,637,276,167.72	2,620,103,475.59
* Total specie	166,983,556.01	171,078,906.15	167,315,665.62	165,104,210.26	165,985,454.38
LIABILITIES.					
Capital stock paid in	\$550,698,075.00	\$555,351,765.00	\$565,629,068.45	\$571,648,811.00	\$578,462,705.00
Surplus fund	159,573,479.21	164,337,132.72	167,411,521.03	172,348,398.99	173,913,440.97
Other undivided profits	79,298,286.13	67,248,949.16	70,153,368.11	62,294,634.02	71,451,167.02
National bank circulation outstanding	202,078,287.00	189,231,498.00	176,771,539.00	166,625,658.00	167,283,343.00
State bank notes outstanding	115,352.00	109,100.00	98,716.00	98,097.00	98,689.00
Dividends unpaid	1,590,345.06	1,441,028.17	1,977,314.40	2,239,929.40	2,495,127.83
Individual deposits	1,169,716,413.13	1,224,925,098.26	1,266,570,537.67	1,285,076,978.58	1,249,477,120.95
S. deposits	13,705,700.73	15,239,909.94	17,556,485.90	19,180,712.77	20,392,284.03
Deposits of U. S. disbursing officers	4,276,257.85	4,277,187.01	3,779,735.14	4,074,903.62	4,831,666.14
Due to other national banks	223,842,279.46	249,337,482.40	244,575,545.12	235,966,622.46	227,491,984.15
Due to State banks and bankers	91,254,533.23	103,012,552.48	102,089,438.63	103,603,598.14	102,094,625.68
Notes and bills received	9,159,345.79	7,556,837.10	10,132,790.64	11,125,236.08	17,312,806.39
Bills payable	2,444,958.30	2,082,374.21	2,567,053.30	2,985,987.90	4,888,439.43
Aggregate	2,507,753,912.95	2,581,143,115.05	2,629,314,022.42	2,637,276,167.72	2,620,103,475.59

SECOND.

STATEMENT OF NATIONAL BANKS CLOSED DURING THE YEAR.

Name and location of bank.	Date of authority to commence business.	Date of closing.	Capital stock.	Circulation.		
				Issued.	Re-deemed	Outstanding.
National Bank of Kingwood, W. Va.	Nov. 14, 1863	Oct. 21, 1886	\$125,000	\$96,140	\$20,230	\$7
Commercial National Bank, Marshalltown, Iowa	June 9, 1883	Oct. 23, 1886	100,000	22,500	4,200	18
First National Bank, Indianapolis, Ind.	Sept. 1, 1881	Nov. 11, 1886	500,000	162,325	30,295	13
First National Bank, Pine Bluff, Ark.	Sept. 18, 1882	Nov. 15, 1886	50,000	26,280	7,365	14
First National Bank, Concord, Mich.	Sept. 15, 1884	Nov. 27, 1886	50,000	11,250	2,700	4
Jamestown National Bank, Jamestown, Dak.	Apr. 10, 1885	Nov. 29, 1886	50,000	11,250	1,890	1
First National Bank, Berea, Ohio	June 27, 1872	Dec. 1, 1886	50,000	45,000	9,009	3
First National Bank, Allerton, Iowa	Sept. 29, 1874	Dec. 6, 1886	50,000	11,250	3,283	7
Second National Bank, Hillsdale, Mich.	July 20, 1865	Dec. 18, 1886	50,000	13,892	3,228	10
Tontion National Bank, Tipton, Ia.	June 26, 1885	Dec. 28, 1886	50,000	18,000	2,960	11
First National Bank, Warsaw, Ill.	Aug. 16, 1861	Dec. 31, 1886	50,000	38,250	3,470	34
First National Bank, Hamburg, Iowa	June 28, 1877	Dec. 31, 1886	50,000	13,500	3,425	10
Darlington National Bank, Darlington, S. C.	Mar. 26, 1881	Feb. 10, 1887	100,000	22,500	5,949	10
Union National Bank, Cincinnati, Ohio	Aug. 6, 1881	Feb. 14, 1887	500,000	237,230	49,052	18
Roberts National Bank, Titusville, Pa.	Dec. 12, 1882	Feb. 28, 1887	100,000	75,610	12,300	6
National Bank of Itahway, N. J.	Mar. 16, 1865	Mar. 9, 1887	100,000	42,500	6,184	3
Olney National Bank, Olney, Ill.	Feb. 14, 1882	Mar. 11, 1887	61,600	27,000	4,630	2
Metropolitan National Bank, Leavenworth, Kans.	May 26, 1884	Mar. 15, 1887	100,000	22,500	2,590	14
Ontario County National Bank, Canandaigua, N. Y.	Aug. 11, 1882	Mar. 23, 1887	50,000	11,250	1,100	10
Winsted National Bank, Winsted, Conn.	Mar. 15, 1879	Apr. 12, 1887	50,000	11,250	2,120	4
Council Bluffs National Bank, Council Bluffs, Iowa	Dec. 30, 1883	May 5, 1887	100,000	22,500	1,130	20
Palatka National Bank, Palatka, Fla.	Nov. 20, 1884	May 30, 1887	50,000	19,210	1,595	11
Fidelity National Bank, Cincinnati, Ohio	Feb. 27, 1886	June 20, 1887	1,000,000	90,000	2,235	8
First National Bank, Homer, Ill.	June 2, 1883	June 22, 1887	50,000	11,250	5,130	1
First National Bank, Beloit, Wis.	Aug. 4, 1874	June 30, 1887	50,000	11,250	1,350	1
Mystic National Bank, Mystic, Conn.	June 14, 1865	July 7, 1887	52,450	47,205	3,106	4
Exchange National Bank, Louisiana, Mo.	Jan. 7, 1881	July 12, 1887	50,000	11,250	1,130	1
Honrietta National Bank, Honrietta, Tex.	Aug. 8, 1883	July 25, 1887	50,000	11,250	.....	1
Exchange National Bank, Downs, Kans.	Sept. 30, 1886	Aug. 1, 1887	50,000	11,250	550	1
National Bank of Sumter, S. C.	Nov. 26, 1883	Aug. 22, 1887	50,000	11,250	.....	1
First National Bank, Dansville, N. Y.	Sept. 4, 1863	Aug. 25, 1887	50,000	11,250	.....	1
First National Bank, Corry, Pa.	Dec. 6, 1884	Sept. 16, 1887	100,000	44,450	.....	4
Stafford National Bank, Stafford Springs, Conn.	Jan. 7, 1865	Oct. 12, 1887	200,000	94,048	.....	4
Total			4,087,450	1,315,640	192,804	1,11

Of the above banks, twenty-five went into voluntary liquidation eight failed.

* * * * *

FOURTH.

STATE, SAVINGS, AND PRIVATE BANKS, AND LOAN AND TRUST COMPANIES.

In order to comply with the fourth requirement of section 333 of Revised Statutes of the United States, the Comptroller has obtained through the courtesy of the authorities of 21 States, which exact turns of this nature, all the information received by them. This information, transmitted sometimes in detail and sometimes compiled by

State officers, embraces the affairs of 1,620 incorporated institutions and 182 private banking concerns, making 1,802 in all.

In order to obtain the information about the institutions of like character in States and Territories where no returns are made to local authorities, resort was had to an extended and laborious correspondence. The names and addresses of over 4,000 concerns were collected, and to each a circular was sent asking for the information desired, and inclosing blank forms to be filled and returned. Out of the total number thus approached less than 1,400 have returned answers available for the purpose in view, and in many of these cases further correspondence was necessary in order to elicit all the information desired. In addition to this correspondence, each bank reporting its condition through the medium of State officials was written to individually, and requested to report the distribution of its stock.

The returns of 1,620 institutions obtained from the State authorities embrace a statement of the condition of 914 banks operated under State charters; aggregate capital, \$114,830,660; surplus and undivided profits, \$41,943,984; deposits, \$390,821,688; of 42 loan and trust companies, capital, \$21,858,797; surplus and undivided profits, \$18,308,324; deposits, \$199,799,370; of 664 savings banks, of which 580 report no capital, and 84 report capital aggregating \$6,991,166. The aggregate surplus and undivided profits of the 664 savings banks is \$120,187,883, and their aggregate deposits amount to \$1,157,867,483. One hundred and eighty-two private banks report capital to the amount of \$5,896,144, surplus and undivided profits of \$1,720,192, and deposits of \$18,843,930.

In response to circulars sent directly, reports of condition have been received from 1,354 concerns in States and Territories where no reports are required to be made to local authorities, viz, from 499 State banks having an aggregate capital of \$26,169,717, surplus and undivided profits of \$8,028,226, and deposits of \$55,738,334; from 16 loan and trust companies, with capital of \$14,496,972, surplus and undivided profits of \$8,884,995, and deposits of \$40,391,341; from 20 savings banks, with capital of \$3,099,700, surplus and undivided profits of \$6,712,360, and deposits of \$77,868,586; and from 819 private banks with capital of \$34,183,294, surplus and undivided profits of \$16,443,708, and deposits of \$77,736,527.

The 1,471 incorporated banks and loan and trust companies, reporting their condition officially and unofficially, have an aggregate capital of \$177,356,146, and of these 1,120 furnished statements as to the distribution of their stock, aggregating \$151,587,705 in par value. From examination of the details of those statements, it appears that the par value of the share ranges from \$10 to \$1,000, and the average par value of all the shares is \$79.53.*

It was desired to make a classified report of the holdings of gold, silver, legal tenders, and national-bank notes, but as only a comparatively small number of associations outside of the national-bank system separate the items composing "cash on hand," and as the majority of the State reports simply show "cash on hand" and "cash in bank," the result is not as satisfactory as was hoped for. From the reports in which "cash on hand" is classified, it appears that the amount held by 1,360 such associations in gold coin is \$27,015,952; in gold certificates, \$937,710; in silver coins, \$1,824,657; in silver certificates, \$598,313; in specie (not classified), \$13,744,873; and in legal tenders and national-bank notes, \$35,462,589.

* In one case shares are reported at the par value of 33½ cents.

For purposes of comparison, reference is made to the following table:

STATEMENT SHOWING THE AMOUNT OF GOLD, SILVER, ETC., HELD BY NATIONAL BANKS, AND OTHER BANKING ASSOCIATIONS, AT DATE OF LATEST RETURNS.

Classification.	National banks.	1,300 other banking associations.	Total.
Gold coins.....	\$73,782,489	\$27,015,952	\$100,798,441
Gold certificates.....	53,961,690	937,710	54,899,400
Gold clearing-house certificates.....	23,981,000		23,981,000
Silver dollars.....	0,683,368		
Silver, fractional.....	2,715,526	1,824,657	11,223,551
Silver certificates.....	8,961,380	598,313	4,556,693
National bank notes.....	21,087,884		
Legal tenders.....	73,751,255	35,462,589	131,151,728
Specie (not classified).....		13,744,873	13,744,873
Total.....	280,774,592	70,584,004	340,358,696

In the Appendix tables will be found showing by States and Territories the condition of these banks as obtained from official sources and from banks direct (classified as unofficial returns); aggregate resources and liabilities of each class and from both sources; comparative statements of condition 1882 to 1887; distribution of shares of stock, by States and geographical divisions, and deposits in savings banks, number of depositors and average amount due each, by States, in 1885-'86, and 1886-'87.

The following tables present summaries of these matters:

AGGREGATE RESOURCES, LIABILITIES, AND CONDITION OF STATE BANKS, LOAN AND TRUST COMPANIES, AND SAVINGS AND PRIVATE BANKS, ORGANIZED UNDER STATE AND TERRITORIAL LAWS. (FROM OFFICIAL SOURCES.)

	State banks.	Loan and trust companies.	Savings banks.	Private banks.	Total.
	914 banks.	42 banks.	664 banks.	182 banks.	1,802 banks.
RESOURCES.					
Loans on real estate.....	\$28,653,410	\$11,007,315	\$46,024,258	\$2,080,374	\$483,434,357
Loans on personal and collateral security.....	79,141,632	294,756	122,631,426	9,771,504	211,839,318
Loans and discounts.....	269,897,676	141,607,109	31,612,743	5,777,353	418,894,872
Overdrafts.....	1,348,583	1,318	77,357	352,393	1,779,651
United States bonds.....	2,292,913	28,403,836	106,219,198	89,600	197,005,547
State, county, municipal, etc., bonds.....	1,029,683	45,607	209,038,864		210,114,154
Railroad bonds and stocks.....	351,472	75,931	5,992,053		59,419,456
Bank stocks.....	56,910	19,301	39,778,238		39,848,449
All other bonds, stocks, etc.....	22,652,256	30,648,205	47,150,157	1,101,258	101,551,976
Due from other banks.....	54,184,825	14,516,239	53,139,067	4,159,814	125,939,945
Real estate, furniture, and fixtures.....	16,865,170	7,648,811	27,848,385	1,450,839	53,318,205
Current expenses and taxes.....	1,141,024	132,778	1,633,313	26,182	2,933,297
Cash and cash items.....	109,183,861	11,218,823	12,842,682	3,767,071	128,011,437
All other resources.....	13,939,459	2,383,081	70,423,624	367,535	87,136,299
Total.....	589,257,874	248,057,701	1,288,013,365	28,953,023	2,151,281,963
LIABILITIES.					
Capital stock.....	114,830,060	21,858,797	6,991,166	5,896,144	149,576,767
Surplus.....	34,115,469	9,594,192	114,091,457	1,681,523	159,482,633
Other undivided profits.....	10,828,524	8,714,132	6,096,426	38,689	25,677,761
State bank notes.....	138,973				138,973
Dividends unpaid.....	473,416	525,979	122,308		1,121,703
Deposits.....	399,821,688	199,799,370	1,157,867,483	18,813,930	1,767,332,471
State, county, and municipal deposits.....					
Deposits of State, county, and municipal disbursing officers.....	88,193				88,193
Due to other banks.....	28,949,795	1,136,923	88,688	871,807	31,046,363
Other liabilities.....	6,011,165	6,429,208	2,755,037	1,629,890	16,815,170
Total.....	589,257,874	248,057,701	1,288,013,365	28,953,023	2,151,281,963

STATE RESOURCES, LIABILITIES, AND CONDITION OF STATE BANKS, LOAN AND TRUST COMPANIES, AND SAVINGS AND PRIVATE BANKS, ORGANIZED UNDER STATE AND TERRITORIAL LAWS. (FROM UNOFFICIAL SOURCES).

	State banks.	Loan and trust companies.	Savings banks.	Private banks.	Total.
	499 banks.	16 banks.	20 banks.	819 banks.	1,354 banks.
RESOURCES.					
real estate.....	\$5,613,963	\$5,202,678	\$10,817,408	\$15,469,166	\$37,133,215
personal and collateral security.....	41,053,200	36,249,262	22,921,709	54,003,420	154,227,601
discounts.....	16,494,483	1,675,719	6,292,674	18,587,909	43,050,185
notes.....	1,047,027	11,492	12,768	1,506,385	2,577,672
State bonds.....	237,243	383,881	14,029,556	4,263,056	18,915,780
county, municipal, etc., bonds.....	612,720	132,541	6,725,951	356,234	7,827,446
bonds and stocks.....	459,257	7,324,417	15,416,878	2,904,872	26,105,424
other banks.....	324,555	119,350	289,442	592,091	1,326,338
bonds, stocks, etc.....	5,057,846	5,780,673	3,534,070	5,641,632	20,014,281
other banks.....	10,590,056	4,279,264	1,970,600	18,066,251	34,906,231
fixtures, furniture, and fixtures.....	4,109,932	3,438,461	1,791,365	8,306,977	17,646,735
expenses and taxes.....	982,648	300,731	128,137	725,395	2,136,881
cash items.....	10,662,857	5,603,401	5,162,553	11,896,653	33,325,464
resources.....	1,278,184	566,086	554,788	3,173,335	5,571,393
all.....	98,523,971	71,067,956	89,647,359	145,525,316	404,764,602
LIABILITIES.					
stock.....	26,160,717	14,496,972	3,000,700	34,183,294	77,949,683
divided profits.....	4,404,260	6,247,601	5,603,853	10,556,542	26,812,256
notes.....	3,623,966	2,637,394	1,108,507	5,887,106	13,257,033
unpaid.....	89,983	55,276	71,078	2,155	92,138
county, and municipal deposits.....	276,333	40,391,341	77,868,586	170,055	572,742
of State, county, and municipal dis. officers.....	55,738,334	38,084	77,736,527	946,192	251,734,788
other banks.....	1,132,109	.....	.....	.....	2,116,385
fixtures, furniture, and fixtures.....	408,278	.....	.....	1,158,905	1,567,183
expenses and taxes.....	3,495,619	4,470,874	2,200	4,941,254	12,909,947
liabilities.....	3,185,372	2,730,414	1,893,435	9,943,226	17,753,447
all.....	98,523,971	71,067,956	89,647,359	145,525,316	404,764,602

STATE RESOURCES, LIABILITIES, AND CONDITION OF ALL STATE BANKS, LOAN AND TRUST COMPANIES, AND SAVINGS AND PRIVATE BANKS, ORGANIZED UNDER STATE AND TERRITORIAL LAWS.

	Official.	Unofficial.	Total.
	1,802 banks.	1,354 banks.	3,156 banks.
RESOURCES.			
real estate.....	\$483,434,357	\$37,133,215	\$520,567,572
personal and collateral security.....	211,839,318	154,227,601	366,066,919
discounts.....	418,894,872	43,050,185	491,945,057
notes.....	1,779,651	2,577,672	4,357,323
State bonds.....	197,005,547	18,915,736	215,921,283
county, municipal, etc., bonds.....	210,114,154	7,827,446	217,941,600
bonds and stocks.....	59,419,456	26,105,424	85,524,880
other banks.....	39,848,449	1,326,338	41,174,787
bonds, stocks, etc.....	101,551,976	20,014,281	121,566,257
other banks.....	125,999,945	34,906,231	160,906,176
fixtures, furniture, and fixtures.....	53,313,205	17,646,735	70,959,940
expenses and taxes.....	2,933,297	2,136,881	5,070,178
cash items.....	128,011,437	33,325,464	161,336,901
resources.....	87,136,299	5,571,393	92,707,692
all.....	2,151,281,963	404,764,602	2,556,046,565
LIABILITIES.			
stock.....	149,576,767	77,949,683	227,526,450
divided profits.....	159,482,632	26,812,256	186,294,888
notes.....	25,677,751	13,257,033	38,934,784
unpaid.....	138,973	92,138	231,111
county, and municipal deposits.....	1,121,703	572,742	1,694,445
of State, county, and municipal dis. officers.....	1,767,332,471	251,734,788	2,019,067,259
other banks.....	.....	2,116,385	2,116,385
fixtures, furniture, and fixtures.....	88,193	1,567,183	1,655,376
expenses and taxes.....	31,046,393	12,909,947	43,956,340
liabilities.....	16,817,170	17,753,447	34,569,617
all.....	2,151,281,963	404,764,602	2,556,046,565

**NUMBER, CAPITAL STOCK, SURPLUS AND UNDIVIDED PROFITS, AND DEPOSIT
STATE BANKS, 1886-'87.**

States, etc.	Num- ber.	Official.		
		Capital.	Surplus and undivided profits.	Depos.
New Hampshire	1	\$50,000	\$15,210	\$
Rhode Island	10	1,786,685	160,775	1.1'
Connecticut	8	2,390,000	497,598	5.4'
New York State	71	8,428,000	5,235,075	37.6'
New York City	31	14,712,700	8,937,031	112.0'
New Jersey	8	1,299,350	492,120	3.2'
Pennsylvania	80	7,848,473	2,062,600	29.1'
Maryland	8	1,979,390	460,072	3.7'
North Carolina	11	691,410	228,706	1.4'
Kentucky	71	11,555,686	2,891,327	16.8'
Missouri	212	11,626,463	6,596,349	49.17
Ohio	46	3,079,695	585,859	10.31
Illiana	32	1,076,600	379,510	3.12
Michigan	62	4,556,150	1,589,101	26.06
Wisconsin	56	3,350,340	1,121,834	19.96
Iowa	65	3,579,843	694,799	5.74
Minnesota	54	5,228,000	1,193,125	14.42
California	88	31,061,935	11,402,287	52.51
Total	914	114,830,660	44,943,984	390.82

States.	Num- ber.	Unofficial.		
		Capital.	Surplus and undivided profits.	Depos.
Delaware	2	\$356,000	\$51,143	\$49
Virginia	39	1,900,255	650,713	5.95
West Virginia	14	819,855	304,160	2.89
South Carolina	10	788,704	365,767	4.12
Georgia	16	2,738,830	1,257,002	4.95
Florida	6	290,100	370,590	.89
Alabama	7	735,000	228,142	.93
Mississippi	9	759,650	97,534	1.10
Louisiana	5	2,017,300	548,693	5.00
Texas	9	761,098	212,761	.97
Arkansas	6	265,000	51,433	.59
Tennessee	27	2,924,254	633,688	5.59
Illinois	48	1,655,500	890,495	5.17
Kansas	149	6,618,545	1,370,121	9.15
Nebraska	140	2,864,606	795,997	4.81
Colorado	8	505,000	168,555	2.27
Oregon	4	170,000	25,423	.17
Total	499	26,169,717	8,028,226	55.73

**NUMBER, CAPITAL STOCK, SURPLUS AND UNDIVIDED PROFITS, AND DEPOSITS
LOAN AND TRUST COMPANIES, 1886-'87.**

States, etc.	Num- ber.	Official.		
		Capital.	Surplus and undivided profits.	Depos.
Maine	2	\$190,297	\$33,665	\$5
New Hampshire	1	200,000	50,619	1'
Massachusetts	9	4,150,000	1,074,277	43.9'
Connecticut	7	986,600	251,990	2.8'
New York State	5	1,431,900	843,096	12.5'
New York City	15	13,900,000	15,928,817	139.2'
Minnesota	3	1,090,000	125,860	4'
Total	42	21,858,797	18,308,324	199.71

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ER, CAPITAL STOCK, SURPLUS AND UNDIVIDED PROFITS, AND DEPOSITS OF LOAN AND TRUST COMPANIES, 1886-'87.—Continued.

States, etc.	Num- ber.	Unofficial.		
		Capital.	Surplus and undivided profits.	Deposits.
Delphia.....	10	\$12,241,972	\$8,524,447	\$40,244,593
ri.....	2	1,200,000	50,850	42,536
ks.....	4	1,055,000	309,098	104,212
	16	14,496,972	8,884,995	40,391,341

ER, CAPITAL STOCK, SURPLUS AND UNDIVIDED PROFITS, AND DEPOSITS OF SAVINGS BANKS, 1886-'87.

States, etc.	Num- ber.	Official.		
		Capital.	Surplus and undivided profits.	Deposits.
.....	54		\$2,190,802	\$37,215,072
Massachusetts.....	66		4,604,680	50,822,792
.....	28	\$460,000	776,112	15,687,050
.....	172		12,928,350	291,197,900
.....	37		2,797,248	53,284,821
.....	85		4,845,631	97,424,820
.....	115		85,633,329	482,486,730
.....	25		2,412,877	27,482,135
.....	2	30,105	14,879	204,125
.....	1		11,464	894,524
.....	1	5,991	374	11,307
.....	4		388,326	15,065,659
.....	6		212,550	2,312,012
.....	37	2,128,693	492,204	9,969,019
.....	7	150,000	128,008	5,891,653
.....	24	4,210,377	2,731,089	70,077,893
Total.....	664	\$6,991,166	120,187,883	1,157,867,483

States, etc.	Num- ber.	Unofficial.		
		Capital.	Surplus and undivided profits.	Deposits.
Delphia.....	5	\$444,700	\$3,811,224	\$42,219,099
.....	2		269,740	2,771,392
.....	8		1,142,697	18,816,837
.....	5	2,655,000	1,483,699	14,061,258
Total.....	20	3,099,700	6,712,360	77,868,586

Only 84 savings banks report capital.

ER, CAPITAL STOCK, SURPLUS AND UNDIVIDED PROFITS, AND DEPOSITS OF PRI- VATE BANKS, 1886-'87.

States, etc.	Num- ber.	Official.		
		Capital.	Surplus and undivided profits.	Deposits.
ri.....	85	\$1,331,241	\$340,579	\$6,435,821
.....	68	980,435	170,036	6,29,619
.....	29	3,578,468	400,577	6,118,496
Total.....	182	5,896,144	1,720,192	18,843,936

**NUMBER, CAPITAL STOCK, SURPLUS AND UNDIVIDED PROFITS, AND DEPOSITS OF
PRIVATE BANKS, 1886-'87—Continued.**

States.	Num- ber.	Unofficial.		
		Capital.	Surplus and undivided profits.	Deposits.
Massachusetts.....	5	\$231,000	\$200,008	\$827,880
Connecticut.....	4	78,000	43,821	387,374
New York.....	41	1,218,272	843,811	6,013,483
New Jersey.....	3	169,325	102,125	751,483
Pennsylvania.....	40	1,571,351	690,069	8,090,050
Maryland.....	3	16,000	1,254	47,823
District of Columbia.....	1	33,000	13,118	79,490
North Carolina.....	2	40,000	22,900	112,533
South Carolina.....	3	87,850	31,330	51,161
Georgia.....	12	740,770	179,050	372,785
Florida.....	2	53,000	5,381	228,129
Alabama.....	5	312,000	2,514,632	1,471,269
Mississippi.....	2	120,000	50,976	129,937
Louisiana.....	2	33,000	8,925	52,285
Texas.....	18	1,709,899	220,458	1,916,563
Kentucky.....	15	631,700	173,063	1,408,540
Ohio.....	77	2,949,975	1,213,579	11,050,043
Indiana.....	44	2,371,142	419,443	6,319,457
Illinois.....	99	4,240,028	4,233,697	13,128,207
Michigan.....	55	994,077	259,466	2,914,008
Iowa.....	139	5,130,006	1,283,209	6,143,252
Minnesota.....	40	2,895,615	348,551	2,642,758
Kansas.....	55	2,852,934	676,101	2,426,726
Nebraska.....	34	1,256,262	267,652	1,538,131
Colorado.....	8	221,300	20,095	999,961
Nevada.....	2	108,150	22,215	93,247
Oregon.....	3	146,282	443,460	818,181
Dakota.....	77	2,019,180	364,926	1,153,693
Idaho.....	2	127,660	156,761	54,016
New Mexico.....	2	130,000	26,936	194,919
Utah.....	7	995,907	1,125,391	1,818,718
Washington.....	2	225,009	300,039	513,310
Wyoming.....	7	338,000	92,916	730,874
Arizona.....	2	90,000	108,329	344,229
Total.....	819	34,183,294	16,443,708	77,736,527

**NUMBER, CAPITAL STOCK, SURPLUS AND UNDIVIDED PROFITS, AND DEPOSITS OF
STATE, ETC., BANKS, 1886-'87.**

	Num- ber.	Official.		
		Capital.	Surplus and undivided profits.	Deposits.
State banks.....	914	\$114,820,660	\$44,943,984	\$390,821,683
Loan and trust companies.....	42	21,858,797	18,308,324	199,799,370
Savings banks.....	664	6,991,166	120,187,883	1,157,867,483
Private banks.....	182	5,896,144	1,720,192	18,843,930
Total.....	1,802	149,576,767	183,160,383	1,767,332,471

	Num- ber.	Unofficial.		
		Capital.	Surplus and undivided profits.	Deposits.
State banks.....	499	\$26,169,717	\$8,028,226	\$55,738,834
Loan and trust companies.....	16	14,496,972	8,864,993	40,891,241
Savings banks.....	20	3,099,700	6,712,360	77,868,586
Private banks.....	819	34,183,294	16,443,708	77,736,527
Total.....	1,854	77,949,683	40,069,289	251,734,788

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DISTRIBUTION, NUMBER, AND AVERAGE PAR VALUE OF SHARES OF STOCK OF 1,120 INCORPORATED BANKS IN THE UNITED STATES ON JUNE 30, 1887.

	Number.		Number.
Number of shares of stock held by—		Number of shareholders—	
State residents	1,669,070 $\frac{1}{2}$	Resident	39,477
Non-State residents	237,062 $\frac{1}{2}$	Non-resident	7,900
		Total	47,377
Same, in detail, held by—		Number of shareholders owning specific amounts—	
Natural persons	1,839,886	Owning shares to the par value of \$1,000 and less	24,609
Religious, charitable, and educational institutions	9,472	Owning shares to the par value of over \$1,000 and less than \$5,000	14,812
Municipal corporations	1,625	Owning shares to the par value of \$5,000 and less than \$30,000	7,897
Savings banks, loan and trust and insurance companies	41,389 $\frac{1}{2}$	Owning shares to the par value of \$30,000 and over	599
All other corporations	13,761	Total	47,377
Total issued	1,906,133 $\frac{1}{2}$		
Average par value of share	\$79.53		
Number of shareholders—			
Natural persons	46,553		
Corporations	824		

A table in the Appendix, page 175, shows, by States and Territories, the estimated population of each, and the aggregate capital, surplus, undivided profits, and individual deposits of national and State banks, loan and trust companies, and savings and private banks in the United States on June 1, 1887; the average of these per capita of population, and the per capita averages of such resources in each class of banks, from which it appears that the estimated population of the United States, June 1, 1887, is 59,893,000; total banking funds amount to \$4,563,192,203, which is an average of \$76.19. The per capita averages of such resources in each class of banks are: National banks, \$34.91; State banks, \$10.69; loan and trust companies, \$5.07; savings banks, \$22.92; and private banks, \$2.58.

The Comptroller is indebted for the estimates of population to Mr. E. B. Elliott, Government Actuary, whose national reputation for skill and accuracy in reaching conclusions by mathematical methods is the surest guaranty that the figures given are as nearly correct as possible.

The following table, stating, by geographical divisions, the number of private banks in the United States, with the aggregate amount of their capital, deposits, and investments in United States bonds, for the six months ending May 31, 1882, has appeared in previous Reports. It is repeated for the reason that it has been impossible to obtain similar information from any official source since the date above mentioned:

Geographical divisions.	No. of banks.	Capital.	Deposits.	Invested in U. S. bonds.
New England States	94	\$0, 215, 637	\$6, 568, 310	\$063, 058
Middle States	967	62, 418, 206	112, 690, 656	9, 227, 728
Southern States	280	6, 334, 090	20, 675, 301	167, 167
Western States and Territories	2, 062	30, 308, 300	149, 023, 311	3, 298, 990
United States	3, 412	105, 276, 233	288, 957, 578	13, 597, 848

CONVERTED AND ORIGINAL BANKS.

It will be seen from the foregoing statement that banks that enter the national system are of two classes, viz, institutions already organized under State laws, converted to national banks under section 5154, Revised Statutes of the United States, and national banking associations primarily organized as such under various acts of Congress:

The following tables show the history of these two classes:

WHOLE NUMBER OF STATE BANKS CONVERTED TO NATIONAL BANKING ASSOCIATIONS, THEIR CAPITAL AT DATE OF CONVERSION, PRESENT CAPITAL AND SURPLUS; SPECIFYING SUCH AS HAVE SINCE GONE INTO VOLUNTARY LIQUIDATION, AND SUCH AS HAVE BECOME INSOLVENT.

Years.	Existing.				Voluntary liquidation.				Insolvent.			
	Whole number converted.	Number in existence.	Capital at date of conversion.	Present capital.	Surplus.	Num-ber.	Capital at date of conversion.	Capital at date of liquidation.	Surplus at liquidation.	Num-ber.	Capital at date of conversion.	Capital at date of failure.
1863.....	12	12	\$6,110,000	\$9,710,000	\$2,584,200	.....	2	\$200,000	\$250,000	.....	.....	.....
1861.....	150	145	66,580,500	72,580,200	26,910,700	.....	2	\$200,000	\$250,000	3	\$417,000	\$367,000
1865.....	284	223	59,175,000	58,604,000	27,501,800	47	11,715,200	10,101,200	1,772,000	14	4,401,100	4,371,100
1860.....	6	3	890,300	3,100,000	82,000	.....	2	275,000	250,000	1	3,410,200	2,500,000
1867.....	1	1	.....	.....	.....	.....	1	50,000	100,000	.....	.....	.....
1868.....	3	1	250,000	250,000	16,000	2	200,000	200,000	29,700	.....	.....	.....
1869.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1870.....	1	1	1,000,000	1,500,000	250,000	.....	.....	.....	.....	.....	.....	.....
1871.....	5	3	1,178,000	1,225,000	150,000	3	278,000	300,000	35,000	.....	.....	.....
1872.....	5	3	1,110,000	800,000	195,000	2	150,000	150,000	13,500	.....	.....	.....
1873.....	4	4	855,000	605,000	155,000	.....	.....	.....	.....	.....	.....	.....
1874.....	11	9	2,244,000	2,800,000	479,100	2	250,000	250,000	15,500	.....	.....	.....
1875.....	7	5	1,000,000	800,000	197,500	2	200,000	130,000	12,000	.....	.....	.....
1876.....	2	2	161,000	141,000	26,500	.....	.....	.....	.....	.....	.....	.....
1877.....	5	3	680,000	680,000	820,000	1	50,000	50,000	4,500	1	150,000	130,000
1878.....	7	7	716,000	769,000	198,000	.....	.....	.....	.....	.....	.....	.....
1879.....	10	10	1,285,000	1,435,000	447,500	.....	.....	.....	.....	.....	.....	.....
1880.....	6	6	1,147,000	1,340,000	311,500	.....	.....	.....	.....	.....	.....	.....
1881.....	11	11	1,445,700	2,213,100	468,300	.....	.....	.....	.....	.....	.....	.....
1882.....	12	13	1,190,300	1,700,200	311,600	.....	.....	.....	.....	.....	.....	.....
1883.....	10	12	980,000	1,000,000	136,100	4	250,000	250,000	11,200	.....	.....	.....
1884.....	1	1	50,000	50,000	25,000	.....	.....	.....	.....	.....	.....	.....
1885.....	5	5	850,000	850,000	152,700	.....	.....	.....	.....	.....	.....	.....
1886*.....	10	9	2,152,000	2,400,000	179,000	1	50,000	50,000	500	.....	.....	.....
1887.....	11	11	1,250,000	1,350,000	144,100	.....	.....	.....	.....	.....	.....	.....
Total.....	586	498	152,423,800	166,442,000	61,273,800	69	13,058,200	12,081,200	1,906,100	19	8,358,400	7,308,100

*To November 1.

†From November 1, 1886, to November 1, 1887.

Percentage of capital of national banks, organized as such, that went into voluntary liquidation... 14.3
 Percentage of capital of national banks, organized as such, that went into insolvency... 2.3
 Percentage of capital of national banks, organized as such, that are in existence... 82.4
 Percentage of capital of converted banks that went into voluntary liquidation... 6.5
 Percentage of capital of converted banks that went into insolvency... 2.9
 Percentage of capital of converted banks that are still in existence... 89.6
 Percentage of increase of capital of national banks, organized as such... 12.9
 Percentage of increase of capital of converted banks... 5

WHOLE NUMBER OF NATIONAL BANKS OF PRIMARY ORGANIZATION UNDER THE NATIONAL-BANK LAWS, CAPITAL AT DATE OF ORGANIZATION, AND PRESENT CAPITAL AND SURPLUS, SPECIFYING SUCH AS HAVE SINCE GONE INTO VOLUNTARY LIQUIDATION AND SUCH AS HAVE BECOME INSOLVENT.

Years.	Whole number organized.	Existing.			Voluntary liquidation.				Insolvent.		
		Number.	Capital at date of organization.	Present capital.	Surplus.	Num-ber.	Capital at date of liquidation.	Surplus at date of liquidation.	Num-ber.	Capital at date of organization.	Capital at date of failure.
1863.....	473	296	\$40,838,000	\$58,854,800	\$25,923,400	147	\$14,984,200	\$25,424,600	31	\$3,460,000	\$5,119,500
1864.....	104	60	11,848,100	15,370,100	6,087,800	31	5,310,600	6,166,000	4	3,450,000	50,000
1865.....	603	440	107,777,400	111,014,700	35,540,900	144	19,592,200	18,400,000	10	2,475,000	3,560,000
1866.....	353	223	2,750,000	1,585,000	2,384,000	8	800,100	775,300	2	100,000	150,000
1867.....	9	7	850,000	1,500,000	746,000	2	150,000	150,000	2	100,000	150,000
1868.....	10	8	710,000	1,100,000	311,500	2	200,000	200,000	2	100,000	150,000
1869.....	186	108	850,000	1,650,000	200,000	2	250,000	210,000	2	350,000	350,000
1870.....	8	4	4,298,000	5,180,500	1,558,500	20	2,401,000	2,800,000	2	300,000	350,000
1871.....	148	109	11,668,000	12,478,100	3,901,800	34	3,040,000	3,000,000	5	1,000,000	1,300,000
1872.....	156	97	9,074,700	12,477,000	4,868,800	48	4,255,000	3,813,100	11	1,450,000	1,485,000
1873.....	53	38	4,055,000	4,463,000	1,178,100	13	925,000	1,195,600	2	370,000	350,000
1874.....	72	46	3,790,500	4,345,000	1,328,800	22	1,550,000	1,320,000	4	350,000	350,000
1875.....	94	79	10,012,000	11,044,000	2,607,800	14	1,000,000	1,010,000	1	50,000	50,000
1876.....	27	23	2,020,000	2,377,800	679,300	4	250,000	250,000	2	300,000	1,011,300
1877.....	26	21	1,864,000	2,504,000	1,141,700	3	150,000	150,000	2	100,000	100,000
1878.....	23	18	1,625,000	3,105,000	1,603,000	5	250,000	250,000	1	50,000	50,000
1879.....	30	25	2,550,000	3,105,000	631,800	4	200,000	200,000	1	50,000	50,000
1880.....	47	43	5,222,100	6,147,100	1,355,100	9	250,000	250,000	1	50,000	50,000
1881.....	97	87	8,335,000	10,181,000	2,522,200	9	1,720,000	1,770,000	1	50,000	50,000
1882.....	230	212	28,318,000	55,039,000	8,523,100	14	1,380,000	1,380,000	4	225,000	225,000
1883.....	236	214	22,082,000	26,403,000	3,770,200	10	2,135,000	2,135,000	6	550,000	350,000
1884.....	179	171	17,293,000	20,046,100	3,101,600	7	2,450,000	2,450,000	1	50,000	50,000
1885.....	142	139	13,503,000	14,203,000	1,569,800	3	200,000	200,000	1	1,000,000	1,000,000
1886*.....	142	140	15,453,000	16,215,050	693,700	3	100,000	100,000	1	1,000,000	1,000,000
1887.....	214	214	29,196,000	29,090,000	521,400	.....	.....	.....	.....	.....	.....
Total.....	3,219	2,563	347,216,500	412,474,100	112,039,700	556	60,352,500	71,829,000	100	12,640,000	16,300,500

* To November 1.

† From November 1, 1886, to November 1, 1887.

SUMMARY OF NATIONAL BANKS ORGANIZED AND DISSOLVED SINCE FEBRUARY 25, 1863, AND THE NUMBER EXISTING NOVEMBER 1, 1887.

Banks organized.	Num-ber.	Dissoled.						Now existing.		Remarks.
		In liquidation, volun-tary or by expiration.		Failed.		Total number dissolved.		Num-ber.	Per cent.	
		Number.	Per cent.	Number.	Per cent.	Number.	Per cent.			
Converted from State system.....	568	09	12	19	3	88	498	85	Of 625 banks which have gone into voluntary liquidation, 471 took that step for the purpose of winding up their affairs, 79 for the purpose of reorganization, and 75 went into liquidation by reason of expiration of charter, 38 of them having since been reorganized.	
Other banks.....	3,219	556	17	100	3	656	2,563	80		
Total.....	3,805	625	16	119	3	744	3,001	80		

EXTENSION OF THE CORPORATE EXISTENCE OF NATIONAL BANKS.

The act of July 12, 1882, contains the only provision made for the extension of the corporate existence of national banks, and 1,234 associations have availed themselves of this privilege. Annexed is a table brought down to October 31, 1887, showing the capital of these extended banks and their geographical distribution.

TABLE SHOWING, BY STATES, THE NUMBER AND CAPITAL OF NATIONAL BANKS, THE CORPORATE EXISTENCE OF WHICH WAS EXTENDED PRIOR TO NOVEMBER 1, 1887.

States and Territories.	No. of banks.	Capital.	States and Territories.	No. of banks.	Capital.
Alabama	2	\$350,000	Montana	1	\$500,000
Arkansas	1	250,000	Nebraska	3	750,000
Colorado	3	400,000	New Hampshire	25	4,605,000
Connecticut	73	22,450,820	New Jersey	48	9,783,350
Delaware	11	1,503,185	New York	222	72,672,400
District of Columbia	2	500,000	North Carolina	3	650,000
Georgia	6	1,450,000	South Carolina	2	750,000
Illinois	48	6,210,000	Ohio	82	14,854,000
Indiana	32	4,157,000	Oregon	1	250,000
Iowa	25	2,095,000	Pennsylvania	165	44,478,300
Idaho	1	100,000	Rhode Island	59	19,959,500
Kansas	3	300,000	Tennessee	6	1,750,000
Kentucky	11	3,150,000	Texas	4	625,000
Louisiana	2	1,300,000	Vermont	29	5,258,000
Maine	53	8,620,000	Virginia	10	2,016,000
Maryland	29	12,000,000	West Virginia	11	1,341,000
Massachusetts	199	85,712,500	Wisconsin	19	1,665,000
Michigan	19	1,575,000			
Minnesota	6	2,100,000			
Missouri	8	3,150,000	Total	1,234	340,069,505

The following table accounts for all banks organized, and shows how many of these have been extended, and how many are still in operation under the original organization certificates:

TOTAL NUMBER OF BANKS ORGANIZED UNDER THE NATIONAL CURRENCY ACT OF FEBRUARY 25, 1863, AND THE NATIONAL-BANK ACT OF JUNE 3, 1864, THE NUMBER EXTENDED UNDER THE ACT OF JULY 12, 1882, AND STILL IN OPERATION UNDER THEIR ORIGINAL CERTIFICATES OF ORGANIZATION, AND THE TOTAL NUMBER IN OPERATION OCTOBER 31, 1887.

	Act February 25, 1863.		Act June 3, 1864.		Total.
			Before 1882.	Since 1882.	
Originally organized		488	2,278		
Out of existence July 12, 1882		146	347		
In operation July 12, 1882		342	1,931		2,273
Organized since July 12, 1882				1,009	
Since passed into voluntary liquidation to wind up affairs	7		97	37	141
Since in voluntary liquidation by expiration of corporate existence	20		55		75
Placed in hands of receivers	1		20	9	30
		28	172	46	
Extended under act July 12, 1882		314	920		1,234
To reach the term of corporate existence			849		
Passed into voluntary liquidation since extension	3				
Placed in hands of receivers since extension	3	0			
Still in operation under original organization certificate		308	1,759		2,067
Restored to solvency and resumed business			1		
Total number in operation October 31, 1887		308	1,760	903	3,061

The figures in the table as to the number of banks organized under these two acts, respectively, conform to the records of the office, but are not in conformity with the Comptroller's reports of previous years.

The discrepancy is attributable to the fact that certain banks originally organized under the act of 1863 afterward went into voluntary liquidation and were reorganized under the act of 1864. In the records of the office they stand among the banks organized under the latter act, while in the reports they have been included with banks organized under the act of 1863. It is perhaps a matter of but little consequence, but upon principle it seems best that the report should reflect accurately the records as they are.

From the foregoing table it will be found that all of the banks organized under the national currency act of 1863 have either ceased to exist or have had their corporate existence extended, while of those organized prior to July 12, 1882, under the national-bank act of 1864, 1,760 are still in operation under their original certificates of organization.

The following table shows how many of these 849 banks will reach the expiration of their corporate existence during each year from 1888 to 1901, inclusive, with their capital and circulation:

Years.	No. of banks.	Capital.	Circulation.	Years.	No. of banks.	Capital.	Circulation.
1888.....	10	\$1,250,000	\$321,750	1896.....	23	\$2,173,800	\$986,650
1889.....	8	600,000	181,500	1897.....	24	3,410,000	1,171,295
1890.....	61	9,560,500	364,000	1898.....	25	2,679,000	1,198,850
1891.....	97	12,358,900	4,040,885	1899.....	39	4,995,000	2,270,700
1892.....	100	18,815,100	4,562,760	1900.....	50	7,807,100	2,153,330
1893.....	38	4,701,000	1,982,925	1901.....	108	14,669,150	3,702,350
1894.....	63	7,628,000	2,812,730				
1895.....	76	11,250,000	4,431,610	Total.....	717	96,915,550	30,183,625

The number, capital, and circulation of the national banks of which the periods of succession terminated between October 31, 1886, and October 31, 1887, are shown by the following table, which also indicates the number of which the corporate existence has been extended:

Date.	No. of banks that have expired.	Capital.	Circulation.	No. of banks that have extended.	Capital.	Circulation.
1886.....						
December.....	1	\$150,000	\$135,000	1	\$150,000	\$135,000
1887.....						
March.....	3	700,000	102,000	3	700,000	102,000
May.....	1	100,000	90,000	1	100,000	90,000
Total.....	5	950,000	327,000	5	950,000	327,000

The corporate existence of one national bank, with a capital of \$250,000, will expire in November of this year, and the corporate existence of ten national banks, with an aggregate capital of \$1,250,000, will expire during the year 1888.

NATIONAL BANKS OF WHICH THE CORPORATE EXISTENCE WILL EXPIRE DURING THE YEAR 1888, WITH THE DATE OF THE EXPIRATION, THE AMOUNT OF CAPITAL STOCK OF EACH BANK, THE UNITED STATES BONDS ON DEPOSIT WITH THE TREASURER, AND THE AMOUNT OF CIRCULATION ISSUED THEREON.

Charter number.	Title of bank.	State.	Expiration of corporate existence.	Capital stock.	United States bonds.	Circulation.
1676.....	The First National Bank of Honeybrook.....	Pa....	1888. Jan. 1	\$100,000	\$68,000	\$61,500
1677.....	The Greene County National Bank of Springfield.....	Mo...	Jan. 8	100,000	25,000	22,500
1678.....	The Union Stock-Yard National Bank of Chicago (Lake).....	Ill...	Feb. 29	500,000	50,000	45,000
1679.....	The Carolina National Bank of Columbia.....	S. C...	Mar. 14	100,000	25,000	21,500
1683.....	The First National Bank of Mankato.....	Minn...	May 20	75,000	20,000	18,000
1682.....	The State National Bank of Raleigh.....	N. C...	June 2	100,000	25,000	22,500
1685.....	The First National Bank of Sharon.....	Pa....	Aug. 31	125,000	32,000	28,800
1688.....	The First National Bank of Hillsborough.....	N. H...	Sept. 2	50,000	50,000	45,000
1690.....	The First National Bank of Austin.....	Minn...	Oct. 27	50,000	12,500	11,250
1686.....	The First National Bank of Faribault.....	Minn...	Nov. 21	50,000	50,000	45,000

CIRCULATING NOTES.

Upon the security of its bonds, deposited with the Treasurer, each bank is entitled to receive, and the Comptroller of the Currency is by law required to issue to it upon demand of its officers, circulating notes to the amount of 90 per cent. of the market value, and not more than 90 per cent. of the par value, of the bonds. Any bank may deposit more than the minimum of bonds, and may take out circulating notes for 90 per cent. of its deposit, provided its entire outstanding circulation against bonds does not exceed 90 per cent. of its capital stock actually paid in. The circulating notes when issued by the Comptroller are in sheets, and are not valid until signed by the bank officers designated by the statute.

Under the present law the minimum deposit of bonds required to be made by the 3,049 national banks in operation in the United States on October 5, 1887, amounts to \$89,912,347.

A table in the Appendix* shows by States and geographical divisions the national banks in operation on October 5, 1887, separated into two classes, namely, banks of which the capital does not exceed \$150,000, and banks of which the capital exceeds \$150,000. The first class contains 2,150 banks, with an aggregate capital of \$179,849,390; the second, 899 banks, with an aggregate capital of \$398,613,375. The minimum of bonds required to be kept on deposit by the entire body of banks in the first class is \$44,962,347; the minimum for the 899 banks of the second class is \$44,950,000. If all banks held only the minimum of bonds, the total national-bank circulation could not exceed \$80,921,113, while the possible maximum of circulation, namely, 90 per cent. of the aggregate of the national-bank capital, would be \$520,616,489.

The actual circulation on October 5, 1887, was \$272,387,176, inclusive of \$102,719,440 still outstanding, but which, having been surrendered by the banks that issued it, is no longer represented by bonds, but by that amount of lawful money deposited with the Treasurer of the United States to redeem the notes as they are presented.

The \$169,667,736 of circulation for which the banks are responsible consists of \$71,536,500 secured by the bonds deposited by the 2,150 banks having \$150,000 capital and less, and \$98,131,236 secured by the

* This Appendix, which is omitted for want of space, will be found in the bound volume of the Comptroller's report.

bonds belonging to the 899 banks of which the capital exceeds \$150,000. The first class of banks have, therefore, \$31,070,387 more than their minimum and \$90,327,951 less than their possible maximum circulation, while the larger banks have \$57,676,236 more than their minimum and \$260,620,802 less than their maximum.

The following table shows the number of banks organized from July 1, 1882, to July 1, 1887, their capital stock, amount of bonds deposited, and the circulation issued thereon:

Year.	Number of banks.	Capital.	Minimum bonds required.	Bonds actually deposited.	Percentage of excess.	Circulation issued.
					<i>Per cent.</i>	
July 1, 1882, to July 1, 1883 ..	251	\$26,552,300	\$5,153,500	\$7,116,400	28	\$6,404,700
July 1, 1883, to July 1, 1884 ..	218	19,944,000	4,016,000	4,678,100	14	4,208,490
July 1, 1884, to July 1, 1885 ..	142	15,203,000	3,061,250	3,332,800	8	2,969,520
July 1, 1885, to July 1, 1886 ..	163	17,553,000	3,404,500	3,715,500	8	3,343,950
July 1, 1886, to July 1, 1887 ..	217	31,444,000	4,986,000	5,051,300	1	4,538,390

From the foregoing table it appears that 991 banks have been organized between the dates given, with a capital of \$110,698,300; that they have received circulation to the amount of \$21,495,110 on bonds deposited to the amount of \$23,892,100, and that the minimum deposit of bonds required by law for these banks is \$20,623,250.

The actual deposit of bonds during the whole period exceeds the minimum by about 15 per cent. only, and taken year by year the percentage of excess has decreased from 28 per cent. in 1882-'83 to less than 1½ per cent. in 1886-'87.

Of the 217 national banks organized during the past fiscal year, 102 have a capital of \$50,000 each, amounting to \$5,100,000; 76 have a capital of over \$50,000 and not exceeding \$150,000, amounting to \$7,044,000; and 39 have a capital of \$19,300,000. The 39 largest banks deposited the exact amount of bonds required by law, and out of 178 banks of which the capital does not exceed \$150,000 only 8 have deposited bonds in excess of the requirement.

Tables will be found in the Appendix, pp. 183, etc., showing for the national banks in each State, Territory, and reserve city the minimum amount of bonds required by law, the bonds actually held, and the circulation thereon outstanding October 5, 1887; also all other information deemed useful as to circulation.

Banks are privileged to change their deposited bonds from time to time, to increase and to reduce the amount, within limits, and are required to inspect once a year the bonds held for them in trust by the Treasurer. The Comptroller of the Currency is the agent and medium of all such changes; his indorsement on the bonds establishes their ownership and alone validates their transfer. Section 5163 of the Revised Statutes requires him to record every act of deposit, transfer, and withdrawal, and to keep a set of books for the purpose, all of which has been carefully complied with.

INTEREST-BEARING FUNDED DEBT OF THE UNITED STATES, AND THE AMOUNT HELD BY NATIONAL BANKS.

The connection between the banks and the distribution of the funded debt of the United States renders the following statement appropriate:

The public debt at its maximum, on August 31, 1865, amounted to \$2,844,649,626, of which obligations not bearing interest amounted to \$461,616,311, leaving interest-bearing debt \$2,383,033,315. On October 31, 1887, the interest-bearing debt amounted to \$1,041,770,742.

The following table shows the class of bonds, authorizing act, date of maturity, rate of interest, and intermediate changes :

BONDED DEBT AT DATES NAMED.

Date.	6 per cent.	5 per cent.	4½ per cent.*	4 per cent.†	6 per cent.‡	Total.
Aug. 31, 1863....	\$908,518,091	\$100,792,100	-----	-----	\$1,258,000	\$1,109,568,191
June 30, 1866....	1,008,388,469	198,528,435	-----	-----	6,042,000	1,212,958,904
June 30, 1867....	1,421,110,719	198,533,435	-----	-----	14,762,000	1,634,406,154
June 30, 1868....	1,841,521,800	221,588,400	-----	-----	29,089,000	2,092,199,200
June 30, 1869....	1,886,341,300	221,580,300	-----	-----	58,638,320	2,166,559,920
June 30, 1870....	1,764,932,300	221,580,300	-----	-----	64,457,320	2,050,970,920
June 30, 1871....	1,613,807,300	274,226,450	-----	-----	64,618,832	1,952,732,582
June 30, 1872....	1,374,883,800	414,567,300	-----	-----	64,623,512	1,849,074,612
June 30, 1873....	1,281,238,650	414,567,300	-----	-----	64,623,512	1,760,429,462
June 30, 1874....	1,213,624,700	510,628,050	-----	-----	64,623,512	1,788,876,262
June 30, 1875....	1,100,865,350	607,132,750	-----	-----	64,623,512	1,772,621,612
June 30, 1876....	984,990,050	711,685,800	-----	-----	64,623,512	1,761,308,962
June 30, 1877....	854,021,*50	703,266,650	\$140,000,000	-----	64,623,512	1,761,512,012
June 30, 1878....	738,619,000	703,266,650	240,000,000	\$98,850,000	64,623,512	1,845,359,162
June 30, 1879....	310,932,500	646,905,500	250,000,000	679,878,110	64,623,512	1,932,329,622
June 30, 1880....	235,780,400	481,864,900	250,000,000	739,347,800	64,623,512	1,774,616,612
June 30, 1881....	196,378,600	439,841,350	250,000,000	739,347,800	64,623,512	1,680,191,262
June 30, 1882....	Continued at 3½ per cent. 58,957,150	Continued at 3½ per cent. 401,503,900	250,000,000	739,340,350	64,623,512	1,514,433,612
June 30, 1883....		Funded into 8 per cents, act July 12, 1882. 304,204,350	250,000,000	737,942,200	64,623,512	1,388,852,662
June 30, 1884....		224,612,150	250,000,000	737,661,700	64,623,512	1,276,897,362
June 30, 1885....		194,199,500	250,000,000	737,719,850	64,623,512	1,246,533,862
June 30, 1886....		144,040,600	250,000,000	737,759,700	64,623,512	1,196,429,612
June 30, 1887....		19,710,500	250,000,000	737,800,600	64,623,512	1,072,140,612
Oct. 31, 1887....			230,544,600	732,447,550	64,623,512	1,027,615,662

* Funded loan 1861; authorizing act, July 14, 1870, and January 20, 1871; date of maturity, 1891.

† Funded loan 1907; authorizing act, July 14, 1870, and January 20, 1871; date of maturity, 1907.

‡ Pacific railroad bonds; authorizing act, July 1, 1862, and July 2, 1864; date of maturity, 1895 to 1899.

The Navy pension fund, amounting to \$14,000,000 in 3 per cents, the interest upon which is applied to the payment of naval pensions exclusively, and \$155,080 of refunding certificates are not included in the table.

The act approved July 12, 1882, authorized the Secretary of the Treasury to receive at the Treasury any bonds of the United States bearing 3½ per cent. interest, and to issue in exchange therefor an equal amount of registered bonds of the United States bearing interest at the rate of 3 per cent. per annum—

Provided, That the bonds herein authorized shall not be called in and paid so long as any bonds of the United States heretofore issued bearing a higher rate of interest than three per centum, and which shall be redeemable at the pleasure of the United States, shall be outstanding and uncalled.

Under this act \$305,581,250 of 3 percents were issued, but the largest amount outstanding at any time was \$305,529,000, on August 7, 1883, \$52,250 having been redeemed before the last issue was made.

The largest amount of 3 percents held by the national banks on deposit as security for circulation was \$202,386,750, on August 16, 1883.

On October 31, 1886, there was outstanding \$95,850,050 3 per cent. bonds, of which \$31,607,400 had been called. The \$64,242,550 then remaining uncalled have been called during the past year, except that bonds amounting to \$605,150 were voluntarily presented for redemption under Treasury circulars dated August 30, 1886, and September 15, 1886. Of the \$63,637,400 called, \$1,448,400 was still outstanding October 31, 1887.

Of this amount the national banks on that date held \$144,500, deposited with the Treasurer of the United States as security for circulation, and \$550,000 was held by him for them as security for public deposits.

REDEMPTION OF LOAN OF JULY 2, 1882, KNOWN AS THREE PER CENT. BONDS.

Since the last annual report the whole amount of 3 per cent. bonds then outstanding has been called in for redemption.

The following tables show the general progress of this redemption, and its effect upon national-bank circulation, from September 15, 1886, to July 1, 1887.

The first table relates to the entire mass of 3 per cent. bonds outstanding September 15, 1886, including both those held by the Treasurer for the banks and those held by others. It gives the date and maturity of each call since August 1, 1886, the amount of bonds embraced in each, the bonds then outstanding, and those thereafter redeemed.

The second table shows the amount of 3 per cent. bonds held by the Treasurer as security for national-bank circulation on September 15, 1886, the amount of such bonds included in each call for redemption since August 1, 1886, the total amount so held at each date at which interest ceased under any call for redemption, the amounts redeemed at those dates, and the amounts held on which interest had ceased.

STATEMENT SHOWING CHANGES IN THREE PER CENT. LOAN OF JULY 12, 1882, FROM AUGUST 1, 1886, TO JULY 1, 1887.

Call No. 140 to 149.			Amount of bonds outstanding at maturity of each call.			Amount of bonds redeemed between the maturity of each call and maturity of succeeding call.		
Date of call.	Maturity of call.	Amount called.	Amount previously called.	Amount not yet called.	Total amount outstanding.	Redeemed under last call.	Redeemed under previous calls.	Voluntarily surrendered under special calls.
1886.	1886.							
Aug. 12	Sept. 15	\$10,003,650	\$36,337,150	\$91,133,050	\$127,470,200	.....	\$177,270,800	\$788,000
19	Oct. 1	15,005,000	40,575,300	75,450,200	116,025,500	\$11,600	10,758,550	674,550
Sept. 13	16	15,122,400	29,699,900	74,484,700	104,151,800	822,900	10,094,100	965,500
27	Nov. 1	15,008,300	26,043,500	64,222,450	90,265,950	40,000	14,414,650	256,900
Oct. 29	Dec. 1	10,003,350	12,270,900	64,017,600	76,288,500	4,845,000	8,997,600	204,850
	1887.							
Dec. 28	Feb. 1	10,010,900	23,205,350	30,958,400	63,163,750	155,900	17,652,550	161,300
	1887.							
Jan. 22	Mar. 1	13,887,000	20,481,050	28,921,350	50,402,400	.....	12,887,950	29,300
Feb. 21	Apr. 1	10,007,750	15,636,200	10,814,600	35,450,800	162,500	14,696,600	92,500
Mar. 23	May 1	10,014,250	7,258,300	19,774,000	27,032,300	6,832,300	1,708,100	40,600
May 20	July 1	19,717,500	8,851,050	.....	8,851,050	14,929,100	10,027,950	56,500
							278,478,850	3,270,000

RECAPITULATION OF REDEMPTIONS.

Amount redeemed under last call	\$14,929,100
Amount redeemed under previous calls	278,478,850
Amount redeemed uncalled	3,270,000
Bonds of Lewis legacy redeemed	52,250
Total redemptions	296,730,200
Outstanding July 1, 1887	8,851,050
Amount of original issue of loan	305,581,250

STATEMENT SHOWING CHANGES IN THREE PER CENT. LOAN OF JULY 12, 1862—Continued.

Calls No. 140 to No. 149.			Amount of 3 per cent. bonds held by the Treasurer as security for national-bank circulation at maturity of each call.			Amount of 3 per cent. bonds withdrawn by banks in the interval between the maturity of each call and the maturity of the succeeding call.		
Date of call.	Maturity of call.	Amount of bonds included in call held as security for national-bank circulation.	Amount included in previous calls.	Amount not previously called.	Total amount held by the Treasurer.	Redeemed under last call.	Redeemed under previous calls.	Voluntarily surrendered under special calls.
1886.	1886.							
Aug. 12	Sept. 15	\$7,045,200	\$14,644,000	\$80,238,800	\$94,882,800			
19	Oct. 1	11,188,000	29,828,050	57,222,400	87,044,450	\$2,179,100	\$4,978,250	\$677,080
Sept. 15	16	10,795,200	21,873,650	57,180,400	79,054,050	3,682,200	4,058,700	255,500
27	Nov. 1	12,067,650	19,881,600	49,156,460	69,038,050	5,557,500	4,194,000	284,500
Oct. 29	Dec. 1	7,925,500	8,861,450	48,464,000	57,325,450	3,774,400	7,083,400	852,800
Dec. 28	1887.							
1887.	Feb. 1	8,440,250	18,131,950	29,000,800	47,132,250	3,637,350	5,930,750	605,100
Jan. 22	Mar. 1	10,613,750	13,975,500	22,919,300	36,894,800	4,945,550	5,188,900	103,000
Feb. 21	Apr. 1	5,989,500	10,408,800	17,677,600	27,085,900	4,111,500	5,328,900	368,500
Mar. 23	May 4	7,818,700	5,008,950	15,221,600	20,229,550	5,115,950	1,455,900	285,500
May 20	July 1	15,221,600	5,203,950	.....	5,203,950	12,243,150	2,565,450	212,000
						45,248,700	40,804,250	3,623,900

RECAPITULATION.

Amount held by the Treasurer September 15, 1886	\$94,882,800
Amount redeemed from September 15 to October 1, 1886	7,834,350
October 1 to October 16, 1886	7,894,400
October 16 to November 1, 1886	10,016,000
November 1 to December 1, 1886	11,712,600
December 1, 1886, to February 1, 1887	10,193,200
February 1 to March 1, 1887	10,237,450
March 1 to April 1, 1887	9,408,900
April 1 to May 1, 1887	6,857,350
May 1 to July 1, 1887	15,022,600
Amount unredeemed July 1, 1887	5,203,950
	<u>\$94,882,800</u>

It will be seen by reference to foregoing tables that call No. 140 was dated August 12, 1886. On that day the Treasurer held as security for circulation of national banks 3 per cent. bonds amounting to \$103,351,650, of which \$1,720,000 had ceased to bear interest, having matured under previous calls.

Upon the assumption that it would be found practicable and desirable to continue the redemption of these bonds, it became a matter of solicitude with a great many banks holding only 3 percents to ascertain whether their bonds could remain on deposit with the Treasurer as a basis for circulation after interest on them had ceased. Singular as it may seem, some strong and ordinarily well managed banks left large amounts of called bonds on deposit for months, preferring to forego all interest rather than to replace them with other bonds at the then prevailing premium, but as a rule the banks that resisted the replacement of called bonds were those of small capital in sections where money was scarce and dear.

The language of the statute makes it clear that only interest-bearing registered bonds can be deposited, but in the clause requiring the de-

posit to be maintained up to a certain minimum, registered bonds only are mentioned, nothing being said about their being also interest-bearing.

Taking advantage of this ambiguity in the law, it was contended on behalf of certain banks, that when a deposit was once made of interest-bearing registered bonds of the United States, the requirement of the statute was fulfilled, and that banks could not be compelled against their will to replace those bonds, or to retire the circulation issued upon them, because without any action on their part, and even without their consent, the Government had called the bonds for redemption, and had thereby acquired the right to cease paying interest.

On the other hand, it has always been maintained in the Treasury Department, that bonds upon which interest has ceased are not such bonds as the statute requires national banks to keep on deposit as a basis for circulation.

The controversy at one time became very serious, as it was represented that banks in all parts of the country were resolved to go out of the system if they should be compelled to withdraw their called bonds.

With a view of terminating the controversy as to the meaning of the law, the Secretary of the Treasury was requested to submit the question to the Attorney-General, and this being done the Attorney-General decided that bonds on which interest had ceased could not be lawfully held by the Treasurer as security for national-bank circulation.

If at any time within six months after August 12, 1886, the true position of the banks had been known, especially how many of them held no bonds but 3 per cents, or if peremptory measures had been taken to compel the immediate replacement of called bonds, a speculation in the 4 and $4\frac{1}{2}$ per cent. bonds would no doubt have been precipitated, and in that event the formation of new banks would have been arrested, and many of those already in the system would have been forced into liquidation.

If by accident or inadvertence the magnitude of the necessary bond replacements had got out, or if the ambiguity of the law had not afforded opportunity for temporizing with the reluctant banks, there is little doubt that the banks would have been cornered for available bonds, and while the corner lasted no new banks could have been formed, and a greater or less number of the several hundred which held only 3 per cent. bonds would have been forced into liquidation.

It is needless to specify the steps taken to avert these consequences, and at the same time to bring about an acquiescence in the requirement of the law without having recourse to coercive measures, but it is, perhaps, proper to state that between August 12, 1886, and July 1, 1887, nearly \$102,000,000 of 3 per cent. bonds were surrendered by the banks for redemption, and that replacements were made in 4 and $4\frac{1}{2}$ per cent. bonds to the amount of upward of \$20,000,000, while during the same time new banks deposited 4 and $4\frac{1}{2}$ per cent. bonds to the amount of \$4,532,300, and the amounts of these bonds held to secure deposits of public moneys increased by over \$12,000,000. Thus fully \$37,000,000 of 4 and $4\frac{1}{2}$ per cent. bonds were obtained by the banks and transferred to the Treasury within less than twelve months, without exciting any speculative advance in the premium of either loan, as will appear from the subjoined table.

OPENING, HIGHEST, AND LOWEST PRICES OF UNITED STATES REGISTERED FOUR AND FOUR AND A HALF PER CNT. BONDS IN NEW YORK FOR EACH WEEK FROM AUGUST 14, 1886, TO JULY 2, 1887, BOTH DATES INCLUSIVE.

(Compiled from the "Commercial and Financial Chronicle.")

Week ending—	4 per cent. bonds, registered.			4½ per cent. bonds, registered.			Week ending—	4 per cent. bonds, registered.			4½ per cent. bonds, registered.		
	Opening.	Highest.	Lowest.	Opening.	Highest.	Lowest.		Opening.	Highest.	Lowest.	Opening.	Highest.	Lowest.
1886.							1887.						
Aug. 14	126½	126½	126½	110½	110½	110½	Jan. 22	127½	127½	127½	110	110½	110
21	126½	126½	125½	110½	110½	109½	29	128½	128½	128½	110½	110½	110½
28	126½	126½	126½	109½	109½	109½	Feb. 5	128½	128½	128½	110½	110½	109½
Sept. 4	126½	126½	125½	110½	110½	109½	12	128½	128½	128½	109½	109½	109½
11	125½	125½	125½	110	110½	110	19	128½	128½	128½	109½	109½	109½
18	125½	125½	125½	110½	111½	110½	26	128½	128½	128½	109½	109½	109½
25	126½	127	126½	111½	112	111½	Mar. 5	128½	128½	127½	109½	109½	108½
Oct. 2	127	128½	127	111½	112½	111½	12	127	127	127	108½	109½	108½
9	128½	129½	128½	112½	113	111½	19	127	127	127	109½	109½	108½
16	128½	129½	127½	111½	112	111½	26	127½	127	127	109½	109½	108½
23	128½	128½	128½	111½	112	111½	Apr. 2	128½	128½	128½	109½	110	109½
30	128½	128½	128½	111½	112	111½	9	128½	129	128½	109½	110	109½
Nov. 6	128½	128½	128½	110½	110½	109½	16	129½	129½	128½	110	110½	110
13	128½	128½	127½	110½	110½	109½	23	129	129½	129	110	110½	110
20	128½	128½	127	109½	110	109½	30	129½	129½	129½	110½	110½	110½
27	127½	128½	127½	109½	110½	109½	May 7	129	129	129	109	109	108½
Dec. 4	129	130½	128½	110½	110½	110½	14	128½	129	128½	108½	109½	108½
11	128½	129½	128½	110½	110½	110½	21	129½	129½	129	109½	109½	109½
18	128½	128½	127½	110½	110½	110½	28	129½	129½	129½	109½	109½	109½
25	127½	127½	127½	110½	110½	110½	June 4	129½	129½	129½	109½	109½	109½
1887.							11	128½	128½	128½	109½	109½	109½
Jan. 1	127½	128	127½	110½	110½	110½	18	128½	128½	128½	109½	109½	109½
8	127½	127½	126½	110½	110½	109½	25	128½	128½	128	109½	109½	109½
15	127½	127½	127½	110	110½	110	July 2	128½	128½	128½	109½	109½	109½

It is of grave importance for Congress to observe the perilous contingencies involved in the existence of the present relations between the public debt and the national-bank circulation.

It is neither wise nor prudent to maintain a condition of things which makes the possession of official information, necessarily accessible even to clerks in the Departments, an incentive or a temptation to speculation in public securities, nor should the natural and healthy growth of the national-bank system be exposed to the danger of being suddenly arrested by legitimate and discreet operations of the Treasury, directed to the reduction of the public debt.

During the year ending October 31, 1887, \$5,379,250 of 4 percents and \$19,455,400 of 4½ percents were purchased for sinking-fund purposes, making a total of \$24,834,650. Of this amount \$297,500 of 4 percents and \$687,500 of 4½ percents were withdrawn by the national banks from deposit to secure circulation, making total withdrawals from this cause \$985,000, while the replacement by deposits of 4 percents amounted to only \$279,650.

Changes in the debt have induced corresponding changes in the bonds held by the national banks. In January 1866, 1,582 banks, with a capital, surplus, and undivided profits of \$475,330,204, held \$440,380,350 of United States bonds. On October 5, 1887, 3,049 banks, with a capital, surplus, and undivided profits of \$823,827,373, held only \$223,754,450 of bonds. The total bank circulation on January 1, 1866, was \$213,239,530, and on October 5, 1887, that which was secured by bonds was \$167,283,343.

The amount and classes of United States bonds owned by the banks, including those pledged as security for circulation and for public deposits, on June 30 in each year since 1865, are exhibited in the following table:

Years.	United States bonds held as security for circulation.					United States bonds held for other purposes at nearest date.	Grand total.
	6 per cent. bonds.	5 per cent. bonds.	4½ per cent. bonds.	4 per cent. bonds.	Total.		
1865	\$170,382,500	\$85,576,000	.....	.....	\$255,958,500	\$155,785,750	\$391,744,250
1866	241,083,500	86,226,800	.....	.....	327,310,300	121,152,950	448,463,250
1867	251,430,400	89,177,100	.....	.....	340,607,500	84,002,650	424,610,150
1868	250,726,950	90,708,950	.....	.....	341,435,900	80,922,500	422,418,400
1869	235,190,350	87,681,250	.....	.....	322,871,600	55,102,000	397,953,600
1870	247,355,370	94,923,200	.....	.....	342,278,570	43,080,600	386,259,170
1871	220,497,750	139,387,800	.....	.....	359,885,550	30,450,800	390,336,350
1872	173,251,450	207,180,250	.....	.....	380,441,700	31,898,200	412,339,900
1873	160,923,500	229,487,050	.....	.....	390,410,550	25,724,400	416,134,950
1874	154,370,700	226,800,500	.....	.....	391,171,200	25,347,100	416,518,300
1875	136,955,100	230,379,400	.....	.....	376,314,500	26,900,200	403,214,700
1876	108,313,450	232,041,300	.....	.....	341,394,750	45,170,300	386,565,050
1877	87,620,300	206,651,050	\$44,872,250	.....	338,713,600	47,815,050	386,528,650
1878	82,421,200	109,514,550	48,448,650	\$19,162,000	349,546,400	68,850,900	418,397,300
1879	56,042,800	144,616,300	35,056,550	118,538,950	354,254,600	76,603,520	430,858,120
1880	58,056,150	139,738,650	37,700,950	126,076,300	361,552,050	42,831,300	404,483,350
1881	61,901,800	172,348,350	32,600,500	93,637,700	360,488,400	63,840,950	424,338,350
	Continued at 3½ per cent.	Continued at 3½ per cent.					
1882	25,142,600	202,487,650	32,752,650	97,429,800	357,812,700	43,122,550	400,935,250
1883	385,700	7,402,800					
	3 per cent.	200,877,850	39,408,500	101,951,650	353,029,500	34,094,150	387,123,650
1884		172,412,550	40,546,400	111,080,900	330,619,850	31,203,000	361,852,850
	Pacific.						
1885	3,520,000	142,240,850	48,483,050	117,901,300	312,145,200	32,195,800	344,341,000
1886	3,565,000	107,782,100	50,484,200	114,143,500	275,974,700	31,345,550	307,320,250
1887	3,175,000	5,205,950	67,743,100	115,842,650	191,966,700	33,147,750	224,814,450

SECURITY FOR CIRCULATING NOTES.

The following table shows the amount of bonds held by the Treasurer as security for the circulating notes of the national banks on October 31 of each year from 1882 to 1887, inclusive, the amount held by the banks for all other purposes, and the total of these two:

Year.	United States bonds held as security for circulation.					United States bonds held for other purposes at nearest date.	Total.
	Number of banks.	4½ per cent. bonds.	4 per cent. bonds.	3 per cent. bonds.	Pacific 6 per cent. bonds.		
1882	2,301	\$73,754,650	\$104,927,500	\$40,621,950 179,675,550	\$3,526,000	\$362,503,650	\$400,069,400
1883	2,522	41,319,700	100,164,850	892,000 201,327,750	3,403,000	332,877,300	383,551,350
1884	2,671	49,537,450	110,705,450	155,091,400	3,469,000	325,314,300	355,735,900
1885	2,727	40,547,250	116,301,050	138,920,850	3,505,000	308,364,550	340,144,650
1886	2,864	67,436,850	115,383,150	69,038,050	3,586,000	213,444,050	277,875,450
1887	3,061	60,698,100	115,731,400	114,500	3,256,000	188,828,000	223,409,350

* Three and one-half per cent.

The foregoing tables show how the banks have shifted their investments from one class of bonds to another, and the following table exhibits especially the steady decrease in the amount of bonds held for and by the banks, and in connection with other tables in this report it tends to establish the proposition that the banks are gradually reducing their investments in these securities.

Table showing the decrease of national-bank circulation during each of the years ending October 31, from 1884 to 1887, inclusive, and the amount of lawful money on deposit at the end of each year:

National-bank notes outstanding October 31, 1883, including notes of national gold banks.....	\$352,013,787	
Less lawful money on deposit at same date, including deposits of national gold banks.....	35,993,461	\$316,020,326
National-bank notes outstanding October 31, 1884, including notes of national gold banks.....	333,559,813	
Less lawful money on deposit at same date, including deposits of national gold banks.....	41,710,163	291,849,650
Net decrease of circulation		24,170,676
Net outstanding as above, October 31, 1884.....		291,849,650
National-bank notes outstanding October 31, 1885, including notes of national gold banks.....	315,847,168	
Less lawful money on deposit at same date, including deposits of national gold banks.....	39,542,979	276,304,189
Net decrease of circulation		15,545,461
Net outstanding as above, October 31, 1885.....		276,304,189
National-bank notes outstanding October 31, 1886, including notes of national gold banks.....	301,529,889	
Less lawful money on deposit at same date, including deposits of national gold banks.....	81,819,233	219,710,656
Net decrease of circulation		56,593,533
Net outstanding as above, November 1, 1886.....		219,710,656
National-bank notes outstanding October 31, 1887, including notes of national gold banks.....	272,041,203	
Less lawful money on deposit at same date, including deposits of national gold banks.....	102,826,136	169,215,067
Net decrease of circulation		50,495,589

The following table shows the diminishing scale on which banks organized during each of the past five years have availed themselves of the privilege of issuing circulation upon bonds in excess of the minimum which the law obliges them to keep on hand.

For the sake of conciseness in the table the circulation is omitted, but as every bank has received circulation to the amount of 90 per cent. of the bonds deposited, the proportions of the table reflect faithfully the features of the circulation.

REPORT OF THE SECRETARY OF THE TREASURY. 181

NUMBER AND CAPITAL OF NATIONAL BANKS ORGANIZED IN EACH GEOGRAPHICAL DIVISION OF THE UNITED STATES FROM OCTOBER 31, 1882, TO OCTOBER 31, 1887, SHOWING THE AMOUNT OF BONDS DEPOSITED TO SECURE THEIR CIRCULATION, THE MINIMUM AMOUNT OF BONDS REQUIRED BY THE ACT OF JULY 12, 1882, AND THE EXCESS DEPOSITED OVER REQUIREMENTS BOTH IN AMOUNT AND PERCENTAGE.

Divisions.*	Num-ber of banks.	Capital.	United States bonds.			
			Deposited.	Minimum.	Excess.	Per cent of excess over mini-mum.
1883.						
First	7	\$1,275,000	\$995,000	\$312,500	\$682,500	218.40
Second	38	2,975,200	1,854,500	743,800	1,110,700	149.32
Third	5	295,000	155,500	73,700	81,800	110.99
Fourth	43	3,643,650	1,238,100	748,400	429,700	65.43
Fifth	61	11,210,000	2,578,000	1,765,000	813,000	46.06
Sixth	71	7,085,500	1,729,250	1,246,400	482,850	38.73
Seventh	11	620,000	268,400	155,000	113,400	73.16
Eighth	26	1,550,000	556,800	375,000	181,800	48.48
Total	262	28,654,350	9,375,550	5,419,800	3,955,750	72.987
1884.						
First	10	810,000	313,000	190,000	123,000	64.73
Second	22	1,082,250	718,000	340,500	377,500	110.86
Third	6	280,000	166,500	70,000	90,500	137.85
Fourth	27	2,681,100	693,000	627,700	65,000	10.49
Fifth	34	3,413,100	927,000	570,700	356,300	62.43
Sixth	68	5,492,780	1,259,750	1,135,600	104,150	9.17
Seventh	5	380,000	120,000	93,000	25,000	26.31
Eighth	19	1,143,000	309,250	285,700	23,550	8.24
Total	191	16,042,230	4,487,100	3,315,200	1,171,900	35.349
1885.						
First	4	400,000	100,500	100,000	500	.5
Second	18	2,635,000	1,037,500	543,700	493,800	90.822
Third	3	660,000	112,500	112,500	.....	.....
Fourth	20	2,025,000	561,500	506,100	55,400	10.946
Fifth	35	7,123,000	1,963,500	1,218,200	745,300	61.172
Sixth	41	2,350,000	759,800	587,500	172,300	29.329
Seventh	8	725,000	169,000	169,700	300	.177
Eighth	16	1,020,000	255,000	255,000	.....	.....
Total	145	16,938,000	4,969,300	3,491,700	1,467,600	42.031
1886.						
First	5	500,000	125,000	125,000	.....	.....
Second	15	4,000,000	525,000	525,000	.....	.....
Third	4	450,000	112,500	112,500	.....	.....
Fourth	23	1,658,000	404,750	402,000	2,750	.684
Fifth	27	5,465,000	843,000	743,750	99,250	13.344
Sixth	68	5,830,000	982,500	982,500	.....	.....
Seventh	18	2,100,000	367,500	360,000	7,500	2.083
Eighth	24	1,355,000	353,250	313,750	39,500	12.589
Total	174	21,358,000	3,713,500	3,564,500	149,000	4.18
1887.						
First	5	400,000	100,000	100,000	.....	.....
Second	27	7,025,000	771,550	743,750	27,800	3.74
Third	6	500,000	115,000	112,500	2,500	2.22
Fourth	50	6,193,000	1,262,500	1,262,250	250	.02
Fifth	37	5,010,000	939,500	932,500	7,000	.74
Sixth	70	9,002,000	1,400,500	1,400,500	.....	.....
Seventh	17	1,510,000	377,500	377,500	.....	.....
Eighth	13	900,000	225,000	225,000	.....	.....
Total	225	30,546,000	5,211,550	5,174,000	37,550	.72

* See page 452.

The following table exhibits in detail the changes which have occurred during the past year in the amount of national-bank circulation, so arranged as to illustrate the process by which the circulation steadily decreases concurrently with the accession of new banks and an increase in the aggregate national-bank capital:

CAPITAL AND CIRCULATION.

	Paid in capital.	Circulation represented by bonds.
Increase by banks existing November 1, 1886	\$3,668,005	\$3,957,175
Increase caused by formation of new banks	32,410,770	4,592,090
Increase by banks organized during the year	610,000	
Total increase	36,894,775	8,549,265
Decrease by banks still in operation November 1, 1887	2,235,000	57,770,475
Decrease by banks going into voluntary liquidation and failed	4,087,450	1,274,380
Total decrease	6,322,450	59,044,855
Net increase of capital	30,572,325	
Net decrease of circulation		50,495,590

STATEMENT BY MONTHS, SHOWING THE AMOUNT OF UNITED STATES BONDS TRANSFERRED FROM THE SECURITIES HELD IN TRUST BY THE TREASURER OF THE UNITED STATES FOR NATIONAL-BANK CIRCULATION TO THE SECURITIES SO HELD FOR PUBLIC DEPOSITS DURING THE YEAR ENDING OCTOBER 31, 1887, AND THE METHODS BY WHICH SUCH TRANSFER WAS MADE.

Date.	Exchanged.	Substituted	Transferred by retirement of circulation.
1886.			
November			\$70,000
December	\$100,000		100,000
1887.			
January			50,000
February			220,000
March			145,000
April			40,000
May			155,000
June			60,000
July		\$50,000	80,000
August	30,000		
September	140,000		62,500
October	115,000	100,000	500,000
Total	385,000	150,000	1,062,500

BANKS WITHOUT CIRCULATION.

As reported last year, some national banks have not availed themselves of the privilege of taking out circulating notes, and others have surrendered their entire circulation. The following list is unchanged since October 31, 1886:

Title of bank.	Capital.	Bonds.
Chemical National Bank, New York, N. Y.	\$300,000	\$50,000
Fulton National Bank, New York, N. Y.	300,000	50,000
National City Bank, New York, N. Y.	1,000,000	50,000
American Exchange National Bank, New York, N. Y.	5,000,000	50,000
Third National Bank, New York, N. Y.	1,000,000	50,000
National Bank, Washington, D. C.	200,000	50,000
Bank, Chestertown, Md.	50,000	12,500
Bank, Tex.	100,000	25,000
Bank, New York, N. Y.	2,000,000	50,000
Total	9,950,000	387,500

DISSOLUTION.

The total number of national banks organized since February 25, 1863, is 3,805, of which there are now in operation, as shown elsewhere, 3,061; passed out of the system, 744, accounted for thus:

Passed into voluntary liquidation to wind up their affairs.....	480
Less number afterward placed in hands of receivers	9
	471
Passed into liquidation for purpose of reorganization.....	79
Passed into liquidation upon expiration of corporate existence	75
Placed in hands of receivers.....	120
	745
Less restored to solvency and resumed business	1
	744
Total passed out of system.....	744

The corporate existence of five national banks expired during the year ending October 31, 1887, and in each case an extension has been obtained in accordance with the provisions of the act of July 12, 1882.

There were eight failures of national banks during the year ending October 31, 1887, and, as has been shown, in one case the creditors have been paid in full, principal and interest, in another they have received 50 per cent., and in two others 25 per cent. on account of the claims proved.

The affairs of five failed banks have been closed during the past year, and final dividends have been paid to their creditors. These banks, with the total dividends paid in each case, are given below:

Name and location of bank.	Date of appointment of receiver.	Total dividends on principal.	Proportion of interest paid.
		<i>Per cent.</i>	<i>Per cent.</i>
Abington National Bank of Abington, Mass.....	Aug. 2, 1886	100	100
First National Bank of Blair, Nebr.....	Sept. 8, 1886	100	100
City National Bank of Williamsport, Pa.....	May 4, 1886	100	100
Palatka National Bank of Palatka, Fla.....	June 3, 1887	100	100
First National Bank of Butler, Pa.....	July 23, 1879	81	.....

ISSUES AND REDEMPTIONS.

The following table exhibits the number and amount of national-bank notes of each denomination which have been issued and redeemed since the organization of the system, and the number and amount outstanding on October 31, 1887:

Denominations.	Number of notes.			Amount.		
	Issued.	Redeemed.	Outstanding.	Issued.	Redeemed.	Outstanding.
Ones.....	23,167,677	22,776,403	391,274	\$23,167,677	\$22,776,403	\$391,274.00
Twos.....	7,747,519	7,646,720	100,799	15,495,038	15,293,440	201,598.00
Fives.....	100,455,524	85,170,819	15,284,705	502,277,620	425,854,095	76,423,525.00
Tens.....	42,762,799	33,799,928	8,962,871	427,627,990	337,939,280	89,688,710.00
Twentyfives.....	13,301,145	10,091,941	3,209,204	266,022,900	201,838,820	64,184,080.00
Fifties.....	1,849,613	1,536,143	313,470	92,480,650	76,807,150	15,673,500.00
One hundreds.....	1,375,146	1,127,452	247,694	137,514,600	112,745,200	24,769,400.00
Five hundreds.....	23,924	23,193	631	11,962,000	11,646,500	315,500.00
One thousands.....	7,360	7,305	64	7,360,000	7,305,000	64,000.00
Fractions outstanding.....						23,742.60
Totals.....	190,690,716	162,180,004	28,510,712	1,483,917,475	1,212,265,888	271,651,586.60

Notes of gold banks are not included in this table.

A table showing the number and denomination of national-bank notes issued and redeemed, and the number of each denomination outstanding on October 31, for the last twenty years, will be found on page 178 in the Appendix.

Distinct accounts are kept for the incomplete currency issued to banks in replacement of notes redeemed and destroyed under the provisions of the act of June 20, 1874, to banks taking out new circulation upon an extension of their corporate existence under the act of July 12, 1882, and to old and new banks increasing the volume of their circulation by adding to the amount of bonds deposited. The notes issued in the three latter cases have heretofore been designated (on the books of this office and in previous reports) "additional circulation," but this term applies properly only to the two cases last above mentioned.

In order that the following table, showing by States the amount of "additional circulation" issued during the year ending October 31, 1887, and the total amount of such circulation issued since June 20, 1874, may conform to previous reports, the three classes of issue are distributed into two columns, one showing amounts issued under the act of 1882 and the other the issues which are properly additional. This table also shows the amount of circulation retired during the year and the total amount retired since June 20, 1874.

TABLE SHOWING BY STATES THE AMOUNT OF "ADDITIONAL CIRCULATION" ISSUED DURING THE YEAR ENDING OCTOBER 31, 1887, AND TOTAL AMOUNT ISSUED SINCE JUNE 20, 1874.

States and Territories.	Circulation issued under act of July 12, 1882.	Additional circulation issued.	Total.	Circulation retired.		Total.
				Under act of June 20, 1874.	Insolvent and liquidating banks.	
Maine.....	\$46,220	\$11,250	\$57,470	\$429,204	\$433,197	\$862,401
New Hampshire.....	49,940	45,000	94,940	284,673	198,942	483,615
Vermont.....	51,590	56,250	107,840	500,267	337,939	838,206
Massachusetts.....	1,113,105	940,320	2,054,125	4,341,101	3,866,119	8,207,290
Rhode Island.....	2,950	13,950	16,900	796,266	1,112,201	1,908,577
Connecticut.....	178,465	45,000	223,465	1,107,930	1,165,343	2,303,273
New York.....	217,510	1,041,030	1,258,540	1,973,769	2,780,776	4,764,575
New Jersey.....	19,000	203,270	222,270	568,602	454,091	1,044,693
Pennsylvania.....	597,940	806,250	1,404,230	3,698,189	2,920,219	6,518,428
Delaware.....	.....	11,240	11,240	34,160	33,343	71,503
Maryland.....	3,000	67,500	70,500	654,418	752,498	1,402,934
District of Columbia.....	.....	45,000	45,000	61,982	881	62,863
Virginia.....	.....	11,250	11,250	140,320	147,059	287,379
West Virginia.....	.....	25,650	25,650	73,114	146,632	219,746
North Carolina.....	.....	11,250	11,250	112,052	27,202	139,254
South Carolina.....	.....	11,240	11,240	135,102	35,050	170,152
Georgia.....	.....	90,000	90,000	217,610	110,073	327,713
Florida.....	.....	1,930	1,930	3,340	1,595	4,925
Alabama.....	.....	249,750	249,750	127,450	18,022	146,072
Mississippi.....	.....	96,740	96,740	11,790	15	11,745
Louisiana.....	.....	302,480	302,480	281,372	170,077	451,449
Texas.....	.....	468,675	468,675	108,636	16,801	125,437
Arkansas.....	.....	71,010	71,010	10,067	10,355	20,422
Kentucky.....	.....	.....	.....	1,154,197	288,210	1,442,407
Tennessee.....	.....	227,340	227,340	231,335	104,890	362,225
Missouri.....	.....	253,975	254,005	216,141	130,161	346,000
Ohio.....	119,250	436,955	556,205	1,730,530	1,212,340	2,942,872
Indiana.....	30,210	249,680	279,890	649,184	503,567	1,152,751
Illinois.....	128,450	310,025	438,475	666,927	419,580	1,086,507
Michigan.....	18,600	93,420	112,020	281,533	267,942	569,475
Wisconsin.....	420	181,120	181,540	153,603	156,736	310,339
Iowa.....	3,850	94,580	98,430	437,826	169,517	607,343
Minnesota.....	32,750	180,035	212,785	124,323	23,011	140,472
Kansas.....	.....	877,420	877,420	107,461	.....	205,235
Nebraska.....	.....	225,000	225,000	153,668	51,547	205,215
Nevada.....	.....	11,250	11,250	5,960	.....	5,000
Oregon.....	.....	82,240	82,240	20,650	.....	20,650
Colorado.....	.....	78,990	78,990	63,437	67,845	131,282

REPORT OF THE SECRETARY OF THE TREASURY. 185

TABLE SHOWING BY STATES THE AMOUNT OF "ADDITIONAL CIRCULATION" ISSUED DURING THE YEAR ENDING OCTOBER 31, 1887, ETC.—Continued.

States and Territories.	Circulation issued under act of July 12, 1882.	Additional circulation issued.	Total.	Circulation retired.		Total.
				Under act of June 20, 1874.	Insolvent and liquidating banks.	
Utah		\$10	\$10	\$32,530	\$841	\$33,371
Idaho				12,851	4,015	16,866
Montana	15,000	15,000	15,000	13,000		13,000
Wyoming	22,505	22,505	22,505	140	3,560	3,700
New Mexico	13,520	13,520	13,520	80,840	20,850	101,190
Dakota	133,265	133,265	133,265	37,328		37,328
Washington	\$2,510	\$2,510	\$2,510	38,750	7,612	46,362
California	318,800	318,850	318,850	104,740	8,370	113,110
Arizona	22,500	22,500	22,500		8,970	8,970
Total	\$2,614,020	8,549,265	11,163,345	21,057,758	18,366,519	40,324,277
Surrendered to this office and retired						290,768
From June 20, 1874, to October 31, 1886			106,704,902	171,775,021	58,347,227	230,122,248
Surrendered and retired same dates						15,246,964
Grand total Oct. 31, 1887			207,878,247	193,782,779	76,713,746	285,984,258

Notes of gold banks are not included in the above table.

Of the above \$8,549,265 there was issued to banks organized during the year \$4,690,375, and to already existing banks increasing their circulation \$3,858,890.

ISSUES.

The total issues of incomplete currency during the year are shown by the vault account, as follows:

National-bank currency in vaults October 31, 1886	\$62,486,660
Amount received from Bureau of Engraving and Printing during the year ending October 31, 1887	25,413,750
Total	87,900,410
Amount issued to banks during the year	\$36,756,100
Amount canceled during the year, not having been issued	934,060
	37,690,160
Balance in vaults	50,210,250

The duties devolving upon the clerical force in the division of issue of this office are of great responsibility, requiring absolute accuracy and promptness on the part of those to whom these duties are assigned. The records of receipts and issues are balanced daily with the vault accounts, and the work of each day is completed before that of another day is begun. During the past year 29,993 packages of currency were forwarded to banks by express, the same number of receipts prepared for signature and return by the banks, and a large amount of correspondence was conducted.

REDEMPTION.

The provisions of law relating to the redemption of the circulating notes of national banks have undergone many changes, but no change has at any time been made in the only two provisions contained in the act of February, 1863.

These are, first, that every bank must redeem on demand at its place of business any of its circulating notes presented there for redemption during business hours; and second, that the medium of redemption must be "lawful money of the United States."

By the act of June 3, 1864, every association located in Saint Louis, Louisville, Chicago, Detroit, Milwaukee, New Orleans, Cincinnati, Cleveland, Pittsburgh, Baltimore, Philadelphia, Boston, New York, Albany, Leavenworth, San Francisco, or Washington City was required to select, subject to the approval of the Comptroller of the Currency, some national bank in the city of New York, "at which it will redeem its circulating notes at par;" and each association not organized within any of the cities named had likewise to select as its redemption agent some association in one of these cities.

The Comptroller was required to give public notice of the redemption agent of every association, and of any changes made in such agents, and in case any bank failed to select an agent, or to redeem its notes, as provided by the act, the Comptroller, with the concurrence of the Secretary of the Treasury, might appoint a receiver to wind up its affairs.

The act of June 20, 1874, established the National Bank Redemption Agency of the Treasury at Washington, repealed all requirements as to redemption agents elsewhere, relieved the banks of the obligation to keep a reserve upon their circulating notes, and substituted therefor the requirement that every bank should keep up a redemption fund in the hands of the Treasurer of the United States equal to 5 per cent. of its outstanding circulation.

The following table, compiled from the Treasurers' reports, shows the practical working of the law as to the 5 per cent. redemption fund:

TABLE SHOWING MODE OF REIMBURSEMENT OF FIVE PER CENT. REDEMPTION FUND BY NATIONAL BANKS, BY FISCAL YEARS, FROM 1875 TO 1887, INCLUSIVE.

Years.	Deposits of lawful money with assistant treasurers, United States.	Deposits with Treasurer, United States.			Total.
		Deposits received at counter.	Remittances of lawful money by express.	Proceeds of national bank notes redeemed.	
1875	\$88,834,653.12	\$989,646.63	\$32,308,100.78	\$18,742,163.00	\$140,874,563.53
1876	105,134,528.37	664,989.45	19,042,491.62	52,643,065.00	177,485,074.44
1877	116,044,751.34	(*)	7,678,750.57	91,856,769.92	215,580,271.83
1878	100,819,824.50	(*)	5,925,806.89	98,552,739.98	205,398,371.37
1879	101,194,261.04	(*)	4,894,293.06	50,581,484.09	156,670,138.19
1880	46,960,242.06	(*)	2,627,861.16	6,924,097.88	56,512,201.10
1881	41,411,436.87	(*)	3,106,187.40	4,313,702.36	48,831,326.63
1882	50,531,406.68	(*)	2,975,682.27	4,534,598.69	58,041,777.64
1883	113,726,801.90	(*)	2,939,882.01	5,248,120.14	121,914,804.05
1884	89,338,255.34	(*)	3,801,957.46	5,727,786.37	98,867,999.17
1885	106,264,901.13	(*)	4,504,141.79	6,376,897.26	117,144,940.18
1886	92,363,184.15	1,787,241.84	3,423,468.78	5,775,468.84	103,350,363.61
1887	46,254,760.76	2,077,837.82	2,000,214.04	2,189,646.65	52,522,459.27
Total	1,098,879,097.26	5,519,715.74	95,247,937.83	353,466,470.18	1,553,113,221.01
Average	70.75	.36	0.13	22.76	100.00

* No record.

The following tables, compiled from the Treasurers' reports, show for the fiscal years 1874-'75 to 1886-'87—

1. The amounts of national-bank currency received annually at the redemption agency, and the disposition made of it.

2. The points from which this currency was forwarded, and the percentage of the whole received from each point.

3. The total amount of notes redeemed, and the mode of redemption

4. The cost of redemption.

TABLE SHOWING RECEIPTS AND DELIVERIES OF MONIES BY THE NATIONAL-BANK REDEMPTION AGENCY (UNITED STATES TREASURER'S OFFICE) FOR EACH FISCAL YEAR FROM 1873 TO 1887, INCLUSIVE.

Year ending June 30—	Cash balance on hand at close of previous year.	To national bank notes received for redemption.	To "over" received in national bank notes received for redemption.	Aggregates.	By national bank notes, fit for circulation, deposited in the Treasury, and forwarded to national banks by express.	By national bank notes unfit for circulation, delivered to the Comptroller of the Currency.	By notes of failed and liquidating national banks, deposited in the Treasury of the United States.
1876	\$1,155,530,880.48	\$24,644.85	\$155,545,525.33	\$36,106,201.00	\$115,044,455.00	\$4,579,217.00
1876	299,034,854.04	16,401.41	121,080,308.68	102,478,700.00	78,643,155.00	24,027,900.00
1877	7,912,539.00	21,906.58	250,852,910.72	151,070,300.00	62,513,600.00	24,430,700.00
1877	11,505,312.52	37,649.20	224,034,420.28	152,437,300.00	51,383,400.00	11,852,100.00
1879	8,410,848.33	22,148.42	166,049,641.71	112,411,800.00	46,201,700.00	8,354,250.00
1880	3,785,380.29	6,461.30	65,377,526.27	24,990,500.00	29,861,700.00	6,671,700.00
1881	3,097,983.77	11,231.38	62,761,474.58	6,763,600.00	40,080,700.00	12,435,400.00
1882	2,814,107.37	11,222.13	78,044,656.98	3,801,500.00	53,838,500.00	10,933,730.00
1883	3,630,909.32	8,092.69	106,338,602.48	15,572,100.00	78,664,788.00	4,607,660.00
1884	6,672,963.85	6,066.70	132,838,602.49	26,255,500.00	95,610,064.00	3,507,950.00
1885	6,910,452.03	17,060.07	137,113,223.72	45,634,800.00	88,598,170.00	5,591,730.00
1886	6,791,087.83	25,528.97	137,113,223.72	46,701,100.00	82,256,713.50	3,910,573.00
1887	3,810,402.05	10,404.07	91,546,403.37	20,786,640.00	66,841,550.00	1,133,215.50
Total	71,463,097.78	220,906.78	1,844,326,243.28	735,090,131.00	893,819,455.50	131,023,125.50
Year ending June 30—	By United States notes deposited in the Treasury of the United States.	By packages received and money returned.	By express charges deducted.	By counterfeit notes rejected and returned.	By national bank notes—less than three-fifths, lacking signatures, and stamped and returned and discount on United States currency.	By "shorts" reported in national bank notes received for redemption.	Cash on hand at close of year.
1876	\$1,630,557.39	.....	\$3,741.00	\$15,028.12	\$30,223.50	\$4,031,022.33
1876	1,085,092.20	.....	5,188.00	7,709.22	16,175.36	7,942,639.00
1877	1,278,903.86	.....	5,634.00	4,755.91	20,704.43	11,505,312.52
1877	381,372.22	.....	4,008.00	3,997.13	10,304.60	8,410,848.33
1879	329,323.34	.....	3,016.00	6,282.58	9,906.35	3,785,380.29
1880	305,432.14	.....	3,846.75	7,870.23	0,968.97	3,097,983.77
1881	569,971.06	.....	4,151.00	22,763.37	6,018.25	2,844,107.37
1882	672,457.09	.....	4,550.50	3,832.35	13,405.13	3,630,980.33
1883	727,282.58	.....	5,550.50	4,337.62	10,103.35	6,672,963.85
1884	455,333.05	.....	3,770.50	8,365.77	3,785.90	6,910,452.03
1885	339,249.19	.....	3,560.00	3,036.49	6,445.25	6,791,087.83
1886	277,194.78	.....	2,720.00	3,822.28	8,246.05	3,840,402.05
1887	461,413.45	.....	2,924.00	2,554.23	22,356.00	2,165,539.41
Total	8,479,462.75	43,230.85	51,443.25	86,955.30	173,233.34	73,023,637.19

TABLE SHOWING, BY FISCAL YEARS, FROM 1875 TO 1887, THE AMOUNTS OF NATIONAL-BANK NOTES RECEIVED AT THE UNITED STATES TREASURY FOR REDEMPTION FROM THE PRINCIPAL CITIES AND OTHER PLACES, AND THE PROPORTION OF EACH AMOUNT TO THE WHOLE.

Year.	New York.		Boston.		Philadelphia.		Chicago.		Cincinnati.		Saint Louis.	
	Amounts.	Per cent.	Amounts.	Per cent.	Amounts.	Per cent.	Amounts.	Per cent.	Amounts.	Per cent.	Amounts.	Per cent.
1875.....	\$80,925,000	52.07	\$17,508,000	11.32	\$9,096,000	5.85	\$6,814,000	4.39	\$2,676,000	2.37	\$1,384,000	.89
1876.....	78,389,000	38.37	55,878,000	27.35	9,778,000	4.79	10,106,000	4.89	3,085,000	1.51	1,019,000	.50
1877.....	76,693,000	32.47	75,212,000	31.84	20,988,000	8.89	4,162,000	1.76	2,781,000	1.18	1,292,000	.55
1878.....	66,273,000	31.48	80,627,000	38.26	10,836,000	5.15	3,194,000	1.52	2,268,000	1.08	996,000	.47
1879.....	54,170,000	25.00	59,375,000	38.36	7,052,000	3.25	1,719,000	.79	1,219,000	.79	1,487,000	.90
1880.....	20,400,000	42.96	11,701,000	19.00	3,358,000	5.45	1,673,000	2.72	819,000	1.33	392,000	.64
1881.....	23,310,000	39.09	5,565,000	9.33	4,919,000	8.25	2,655,000	4.45	996,000	1.67	673,000	1.13
1882.....	28,012,000	36.82	7,370,000	9.69	5,039,000	7.81	3,515,000	4.66	1,188,000	1.56	1,061,000	1.39
1883.....	26,012,000	35.10	16,031,000	16.19	7,333,000	7.14	6,146,000	5.98	1,774,000	1.73	1,372,000	1.34
1884.....	54,327,000	43.07	19,971,000	15.83	6,830,000	5.41	5,794,000	4.59	1,822,000	1.45	1,155,000	.92
1885.....	75,409,000	50.20	27,473,000	18.29	7,220,000	4.81	4,558,000	3.03	1,910,000	1.27	1,977,000	.65
1886.....	49,487,000	37.98	30,031,000	23.05	7,323,000	5.62	5,493,000	4.22	2,263,000	1.74	3,422,000	2.63
1887.....	31,314,563	35.71	13,219,269	15.08	6,972,856	7.95	5,315,319	6.06	2,244,310	2.56	3,421,028	3.90
Year.	Baltimore.		New Orleans.		Providence.		Pittsburgh.		Other places.		Totals.	
	Amounts.	Per cent.	Amounts.	Per cent.	Amounts.	Per cent.	Amounts.	Per cent.	Amounts.	Per cent.	Amounts.	Per cent.
1875.....	\$1,992,000	1.32	.....	.....	\$1,288,000	.89	\$1,449,000	.93	\$31,180,000	50.07	\$135,421,000	100.00
1876.....	3,265,000	1.60	.....	.....	3,247,000	1.59	1,423,000	.86	38,108,000	18.70	294,300,000	100.00
1877.....	1,821,000	.77	.....	.....	5,053,000	2.39	1,322,000	.66	46,286,000	19.59	276,210,000	100.00
1878.....	1,083,000	.52	.....	.....	4,980,000	2.37	1,141,000	.54	30,179,000	18.61	210,491,000	100.00
1879.....	653,000	.45	.....	.....	3,772,000	2.44	635,000	.41	24,047,000	13.82	154,768,000	100.00
1880.....	415,000	.67	.....	.....	1,454,000	2.36	547,000	.91	14,767,000	23.98	61,586,000	100.00
1881.....	673,000	1.13	.....	.....	1,419,000	2.38	606,000	1.01	14,825,000	31.36	59,650,000	100.00
1882.....	947,000	1.24	.....	.....	1,426,000	1.87	889,000	1.16	25,721,000	33.89	76,089,000	100.00
1883.....	1,026,000	1.58	.....	.....	1,400,000	1.92	917,000	.89	29,163,000	38.43	102,708,000	100.00
1884.....	1,353,000	2.00	.....	.....	1,400,000	1.92	917,000	.89	29,163,000	38.43	102,708,000	100.00
1885.....	2,753,000	4.00	.....	.....	2,592,000	3.63	1,637,000	.46	22,011,000	29.33	126,382,000	100.00
1886.....	3,515,000	2.72	.....	.....	1,791,000	1.32	637,000	.40	23,053,000	31.32	136,200,000	100.00
1887.....	3,162,500	3.54	.....	.....	1,015,131	1.16	557,800	.60	19,240,165	21.94	87,680,087	100.00

TABLE SHOWING TOTAL AMOUNT AND MODE OF PAYMENT FOR NATIONAL-BANK NOTES REDEEMED, BY FISCAL YEARS, COMMENCING WITH YEAR ENDING JUNE 30, 1875.

Year.	Transfer checks.	United States notes.	Fractional silver coin.	Standard silver dollars.	Redeemed at counter.	Credits to assistant treasurers and United States depositaries in general account.	Credits in redemption accounts.	Notes fit for circulation and reducing banks, deposited in Treasury in payment of notes redeemed by Treasury prior to July 1, 1875.	Total.
1875	\$33,872,954.00	\$19,977,710.00			\$100,000.00	\$12,567,011.00	\$18,742,163.60	\$17,532,008.00	\$152,891,855.00
1876	92,374,801.00	40,120,339.00			4,736,979.00	10,078,209.00	52,043,005.00		208,935,392.00
1877	93,212,743.45	34,588,129.15			6,775,000.00	12,789,757.00	91,850,709.92		241,591,373.52
1878	75,301,427.23	21,040,418.41	\$468,974.00		2,661,021.00	12,609,051.76	98,552,738.98		212,780,335.81
1879	51,718,253.06	14,817,825.60	549,043.40		5,080,222.80	35,148,181.38	50,581,484.09		157,303,022.96
1880	16,825,505.63	21,174,825.60	52,178.90	\$96,683.32	3,893,417.60	18,218,070.37	6,924,097.88		61,255,980.48
1881	24,415,972.28	19,567,741.21	85,164.56	174,831.85	3,522,807.00	8,936,232.92	4,313,702.36		75,405,581.95
1882	32,092,144.72	23,222,831.53	240,447.43	268,918.44	4,033,402.40	10,106,238.45	6,248,130.14		101,843,738.53
1883	56,018,447.71	23,068,064.60	296,257.79	242,518.87	3,941,038.00	12,428,692.83	5,442,697.26		135,700,169.18
1884	77,991,916.88	24,080,304.63	158,127.60	1,482,500.35	3,828,993.00	12,900,379.50	6,727,768.37		149,931,396.99
1885	105,840,234.80	19,230,730.27	135,773.22	451,194.22	3,385,185.00	13,944,379.00	6,442,697.26		130,029,635.12
1886	74,149,555.26	9,204,752.76	108,843.62		3,385,185.00	31,007,087.30	6,727,768.37		87,213,259.96
1887	80,096,984.07	15,657,256.63	97,670.41	248,970.92	4,200,654.50	24,768,944.79	2,243,316.05		

TABLE SHOWING, BY FISCAL YEARS FROM 1875 TO 1887, EXPENSES INCURRED IN THE REDEMPTION OF NATIONAL-BANK NOTES AT THE UNITED STATES TREASURY.

Year.	Costs for assorting notes.					Costs for printing and binding.			Costs for stationery.			Contingent and other expenses.	Furniture.	Total.
	Charges for transportation.	Salaries.	Printing and binding.	Stationery.	Postage.	Stationery.	Postage.	Stationery.	Postage.	Stationery.	Postage.			
1875	\$68,068.31	\$158,227.39		\$12,200.72	\$3,208.80	\$12,200.72	\$3,208.80	\$12,200.72	\$3,208.80	\$12,200.72	\$3,208.80	\$16,131.47	\$12,918.63	\$290,965.37
1876	150,142.84	188,018.94		9,174.08	3,391.00	9,174.08	3,391.00	9,174.08	3,391.00	9,174.08	3,391.00	2,869.31	3,472.84	365,103.31
1877	189,862.05	150,695.68	\$4,604.30	3,818.10	3,716.06	3,818.10	3,716.06	3,818.10	3,716.06	3,818.10	3,716.06	2,190.93		357,066.10
1878	177,420.00	136,590.63	2,680.32	3,000.00		3,000.00		3,000.00		3,000.00		8,203.11		317,942.48
1879	98,298.75	133,956.27	2,894.60	2,597.22		2,597.22		2,597.22		2,597.22		947.09		240,949.95
1880	34,764.24	194,350.08	2,632.59	1,034.20		1,034.20		1,034.20		1,034.20		531.67		143,728.39
1881	33,843.86	84,564.72	1,220.60	1,535.42		1,535.42		1,535.42		1,535.42		390.58		126,212.13
1882	39,203.81	87,503.56	2,401.54	890.41		890.41		890.41		890.41		896.11		139,529.38
1883	57,190.99	86,213.35	2,401.54	1,133.81		1,133.81		1,133.81		1,133.81		716.00		147,592.27
1884	68,054.11	88,436.79	1,953.91	1,114.19		1,114.19		1,114.19		1,114.19		441.90		160,896.65
1885	85,255.48	93,371.82	1,670.77	3,190.89		3,190.89		3,190.89		3,190.89		323.11		181,857.16
1886	74,490.62	89,065.18	3,190.89	1,163.63		1,163.63		1,163.63		1,163.63		1,011.61		164,243.35
1887	48,020.53	87,450.54	1,430.93	1,038.39		1,038.39		1,038.39		1,038.39				138,967.00

* In 1875 and 1876 "Printing and binding" was included with item "Stationery."

REDEMPTION OF CIRCULATION OF BANKS IN THE HANDS OF RECEIVERS, OF THOSE IN VOLUNTARY LIQUIDATION, AND OF THOSE REDUCING CIRCULATION UNDER THE ACT OF JUNE 20, 1874.

The redemption of the circulating notes of failed banks at the United States Treasury was provided for originally as it is now, by giving the Comptroller power to cancel or to sell the bonds of the banks, and in case of deficiency in the proceeds to make it good out of the assets of the corporation; but before the act of 1874 went into effect the notes of such banks were called in by public advertisement, whereas now they are left in circulation until they are brought by the ordinary currents of redemption into the office of the Treasurer or of one of the assistant treasurers, or into the hands of a designated depository of public moneys, or one of the national-bank depositaries.

Section 8 of the act of June 20, 1874, requires the Treasurer, assistant treasurers, designated depositaries, and national-bank depositaries to assort and return to the Treasury for redemption the notes of such national banks as have failed, or have gone into voluntary liquidation, and of all such as shall thereafter fail or go into such liquidation.

The following table, compiled from the records of the Bureau of the Currency, shows the course of redemption of the notes of failed banks:

Total circulation of all failed banks, \$14,818,276; amount redeemed, \$13,392,311; balance outstanding or lost, \$1,425,965.

TABLE SHOWING, BY YEARS, FROM OCTOBER 1, 1865, TO NOVEMBER 1, 1887, THE TOTAL CIRCULATION OF BANKS FAILED, THE AMOUNT REDEEMED, AND THE BALANCE OUTSTANDING AT CLOSE OF EACH YEAR. (COMPILED FROM REPORTS OF COMPTROLLER OF THE CURRENCY.)

Year ending--	Total circulation outstanding at end of previous year.	Total circulation of banks failed during the year.	Aggregate of two previous columns.	Amount of circulation of failed banks redeemed during year.	Balance of circulation of failed banks outstanding at close of year.
October 1, 1865.....		\$44,000	\$44,000.00	None.	\$44,000.00
October 1, 1866.....	\$44,000.00	265,000	309,000.00	\$5,320.00	303,680.00
October 1, 1867.....	303,680.00	748,900	1,052,580.00	163,288.00	889,292.00
October 1, 1868.....	889,292.00	321,800	1,211,092.00	618,533.00	592,559.00
October 1, 1869.....	592,559.00	45,000	637,559.00	274,820.35	362,738.65
October 1, 1870.....	362,738.65	129,700	492,438.65	143,662.60	348,776.05
October 1, 1871.....	317,835.85	None.	317,835.85	110,284.25	207,551.60
November 1, 1872.....	208,551.60	1,388,393	1,596,944.60	1,095,581.00	501,363.60
November 1, 1873.....	501,363.60	2,522,100	3,023,463.60	720,915.00	2,302,548.60
November 1, 1874.....	2,302,548.60	235,000	2,537,548.60	491,900.00	2,045,648.60
November 1, 1875.....	2,045,648.60	638,676	2,684,324.60	1,273,346.50	1,410,978.10
November 1, 1876.....	1,410,978.10	540,600	1,951,578.10	961,279.80	990,298.30
November 1, 1877.....	976,296.70	2,319,114	3,295,410.70	2,209,780.15	1,085,630.55
November 1, 1878.....	1,025,625.45	1,385,068	2,410,693.45	850,230.45	1,560,463.00
November 1, 1879.....	1,551,454.00	510,825	2,062,279.00	910,600.00	1,140,879.00
November 1, 1880.....	1,140,879.00	503,143	1,644,022.00	324,546.00	1,319,476.00
November 1, 1881.....	1,312,276.00	None.	1,312,276.00	382,354.00	930,922.00
November 1, 1882.....	930,922.00	999,500	1,930,422.00	547,610.00	1,382,812.00
November 1, 1883.....	1,301,612.00	108,200	1,409,812.00	648,701.00	760,911.00
November 1, 1884.....	760,911.00	859,120	1,620,031.00	612,900.00	1,007,131.00
November 1, 1885.....	1,008,288.00	486,550	1,494,838.00	451,421.00	1,043,417.00
November 1, 1886.....	1,133,414.00	421,840	1,555,254.00	110,224.00	1,445,030.00
November 1, 1887.....	1,458,026.00	307,538	1,765,564.00	339,730.00	1,425,965.00
Total.....		14,818,276		13,392,311.00	

Before the act of June 20, 1874, banks reducing their circulation could withdraw their bonds from the Treasury only upon surrendering there for cancellation an amount of their circulating notes proportioned

to the amount of bonds to be withdrawn, and up to July 14, 1870, banks for one year after going into voluntary liquidation had to resort to the same means in order to withdraw their bonds, but after the expiration of the year such banks might deposit lawful money for the difference between the whole amount of circulation issued to them and the amount surrendered, and thereupon get back the rest of their bonds. The amount of such deposits and the time at which they should be made were left to the voluntary choice of the bank. The act of July 14, 1870, made the deposit of lawful money obligatory upon liquidating banks, and the act of June 20, 1874, fixed six months after notice of liquidation as the limit of time allowed for making such deposits.

The act of June 20, 1874, provided also that any national banking association might withdraw its circulating notes upon the deposit of lawful money with the Treasurer of the United States in sums of not less than \$9,000. Under this act, and on account of liquidating and insolvent banks, and under section 6 of the act of July 12, 1882, which provides for a deposit of lawful money to retire the old circulation of national banks whose corporate existence has been extended, \$371,882,780 of lawful money has been deposited with the Treasurer. This includes \$2,663,720 for redemption of the notes of national gold banks and \$75,806,357 for the redemption of national-bank notes under section 6 of the act of July 12, 1882.

During the year ending October 31, 1887, lawful money to the amount of \$61,387,320 was deposited with the Treasurer to retire circulation, of which \$1,169,472 was deposited by banks in liquidation, \$36,664,668 by banks reducing circulation under the act of June 20, 1874, and \$23,553,180 by banks retiring old circulation under the act of July 12, 1882. The amount previously deposited under the acts of June 20, 1874, and July 12, 1882, was \$260,463,378; by banks in liquidation, \$64,276,892; making a total of \$386,127,590. Deducting from the total the amount of circulating notes redeemed and destroyed without re-issue, which was \$283,301,453, there remained in the hands of the Treasurer on October 31, 1887, \$102,826,137 of lawful money for the redemption and retirement of national-bank circulation, including \$239,929 for the redemption of the circulating notes of national gold banks.

Prior to June 20, 1874, there were redeemed and destroyed \$10,431,135, and since that date \$272,870,317 of bank notes have been redeemed, destroyed, and retired. This latter amount includes \$2,423,791 of the notes of national gold banks, and \$30,728,515 of the notes of national banks whose corporate existence has been extended under the act of July 12, 1882.

There are at present no national gold banks in existence. Of those which had been organized, three went into voluntary liquidation and the others became currency banks, under the provisions of the act approved February 14, 1880.

Under all the laws now in operation the Treasurer has received for redemption up to November 1, 1887, national-bank notes aggregating in amount \$1,795,093,803.

During the past year the receipts at the Treasury amounted to \$83,243,017, of which amount \$30,052,077, or 36 per cent., was received from the banks in the city of New York, and \$11,006,900, or 13 per cent., from banks in the city of Boston. The amount received from Philadelphia was \$6,896,189; from Chicago, \$5,220,200; from Cincinnati, \$2,650,868; from Saint Louis, \$3,219,686; from Baltimore, \$2,708,500; from New Orleans, \$1,350,647; from Providence, \$948,631, and from Pittsburgh, \$690,889.

The following table exhibits the amount of national-bank notes received monthly for redemption by the Comptroller of the Currency during the year ending October 31, 1887, and the amount received during the same period at the redemption agency of the Treasury, together with the total amount received since the passage of the act of June 20, 1874:

Received by the Comptroller of the Currency—						
Months.	From national banks in connection with reduction of circulation and replacement with new notes.	From the redemption agency—			Total.	Received at United States Treasury redemption agency.
		For replacement with new notes.	For reduction of circulation under act June 20, 1874.	Insolvent and liquidating national banks.		
1886.						
November	\$72,840	\$2,200,310	\$1,150,583	\$1,827,553	\$5,251,286	\$5,954,011
December	6,515	2,394,475	1,046,230	1,566,826	5,524,046	7,949,494
1887.						
January	13,940	3,231,160	2,370,512	1,851,451	7,467,063	11,513,904
February	80	2,845,340	2,390,118	1,775,167	7,010,705	7,760,681
March	40,700	2,096,630	1,754,554	1,549,596	5,441,450	5,947,971
April	40	1,901,125	1,682,552	1,510,187	5,093,804	6,048,250
May	10,690	2,263,050	2,133,914	1,742,237	6,150,891	7,446,911
June	103,970	2,440,760	2,434,655	1,856,924	6,836,307	6,878,141
July	26,210	1,512,110	1,686,679	1,253,269	4,478,259	5,963,291
August	690	1,541,765	1,827,235	1,289,879	4,659,569	5,821,000
September	3,905	1,562,075	1,690,764	1,307,548	4,564,292	5,101,627
October	40	1,536,715	1,094,064	835,021	3,463,840	5,541,736
Total	279,620	25,435,515	21,861,858	18,366,519	65,943,512	83,243,017
Received from June 20, 1874, to October 31, • 1886	16,065,805	740,273,100	171,865,151	58,222,236	986,426,292	1,711,850,786
Grand total	16,345,425	765,708,615	193,727,009	76,588,755	1,052,369,804	1,795,093,803

Notes of gold banks are not included in the above table.

The following table, compiled from the books of the Comptroller of the Currency, exhibits the amount of national-bank notes received at this office and destroyed yearly since the establishment of the system:

Prior to November 1, 1865	\$175,490	During year ended October 31—	
During year ended October 31—		1879	\$41,101,830
1866	1,050,382	1880	35,539,660
1867	3,461,423	1881	54,911,110
1868	4,602,825	1882	74,917,611
1869	8,063,729	1883	82,914,764
1870	14,305,689	1884	95,178,418
1871	24,344,047	1885	91,048,723
1872	30,211,720	1886	58,989,810
1873	36,453,171	1887	47,725,033
1874	49,939,741	Additional amount of insolvent and liquidating national banks	87,144,882
1875	137,697,696	Total	1,212,240,754
1876	98,672,716		
1877	78,918,993		
1878	67,581,249		

Notes of gold banks are not included in the above table.

There was in the vault of the redemption division of this office, awaiting destruction, at the close of business October 31, 1886	\$287,240
Received during the year ended October 31, 1887	65,997,812
Total	66,285,052
Withdrawn and destroyed during the year	66,148,742
Balance in vault October 31, 1887	136,310

There was received from the United States Treasurer \$65,718,192, contained in 89,288 packages, and from banks direct, \$279,620, contained in 64 packages. The work in this division, in handling this vast amount of mutilated notes, requires great accuracy, skill, and precision.

SUPERVISION.

The law imposes upon the Comptroller of the Currency the duty of exercising a supervision over the national banks, and to that end requires him to exact reports from them as to their condition on at least five days in each year, and reports of the dividends and earnings of each bank as often as dividends are declared.

The act of 1864 required reports of earnings to be made every six months, whether dividends were declared or not, and although this provision was omitted from the Revised Statutes, these reports have been continuously required by the Comptroller under the general authority to call for reports at his discretion.

The Comptroller is also authorized to cause examination of banks to be made from time to time by persons selected for that purpose by him and approved by the Secretary of the Treasury.

The acts of 1863 and of 1864 seemed to contemplate only occasional examinations, and these by persons employed specially for the occasion. The compensation for each examination was \$5 a day and mileage.

Afterwards experience appears to have led to the employment of regular examiners, and to their assignment to special districts; then followed periodical examinations, which in time arranged themselves at intervals of about twelve months.

The Revised Statutes adopted in 1874 changed the compensation of examiners from a per diem allowance and mileage to fees, graded in amount according to the capital of the bank examined, but this scale of fees was not made applicable to the examination of banks in reserve cities, in certain States named in the Statutes, and in the then Territories. In these excepted cases the Secretary of the Treasury was empowered, upon the recommendation of the Comptroller, to fix the compensation of examiners.

The act of February 19, 1875, readjusted the scale of fees.

From the beginning of the system, however, until now all examinations have been at the expense of the examined bank, which appears to be a sacrifice of principle to governmental economy.

It would appear that the supervision of the national banks by the Comptroller of the Currency was intended originally only to protect the revenue from being defrauded and the public from suffering loss through improper issues of circulating notes, but in process of time the supervision came to be extended so as to serve as a protection to depositors against the maladministration of directors; and quite recently it has been assumed that examiners are expected to discover the defalcations of cashiers and tellers, fraudulent entries in the books of banks, and false statements of assets and liabilities in cases where the president and directors, or some of them, have failed to make such discoveries.

However desirable it may be that examiners should be encouraged to fulfill this extreme expectation, yet no one of practical experience would rely upon an examiner who comes only once a year and who can afford to stay but a single day, to discover thefts or false entries that have been successfully concealed from directors who are always present and whose own money is being stolen.

All efforts must be futile that are directed to supplying by means of official examination an effective substitute for the vigilance and personal accountability of directors. Legislative or administrative force applied to such efforts will be misapplied and wasted.

The only reasonable theory of accountability and supervision is this: The officers of the bank should be accountable to the directors for the honesty and efficiency of its interior administration; the president and directors should be responsible to the public for such an organization as tends to prevent fraud and to detect irregularities. To this end they should especially be required to satisfy themselves personally that all the officers are of good character and reputable conduct; that they receive sufficient compensation to lift them above undue temptation; that the books of the bank are accurately kept and always up to date; that every statement and report emanating from the bank conforms to the books and the facts, and that no laxity of internal administration induces to fraud by displaying opportunities for its perpetration and concealment.

Only banks thus organized and administered are in condition to undergo official examination, which strictly should not be extended beyond the ascertainment, first, that the bank really is thus organized and administered; second, that no law has been violated in respect to loans, reserve, investments, bad debts, or dividends; and, third, that the assets are really worth the amounts representing them on the books of the bank.

Finally it should be the aim and duty of the Comptroller of the Currency to bring every national bank into the condition of organization and administration described, and he should labor to keep every bank in such condition by a scrutiny of its reports, by correspondence, and by means of examinations.

It is probable that the great majority of banks are properly organized and administered, but it is unfortunately certain that quite too many are not so, and among these arise from time to time the scandals that divert public attention from the general honesty and excellence of national-bank administration to sporadic cases of fraud or imbecility.

While the present system of examinations and reports has no doubt contributed materially to the general improvement of the banks, there are two things which seem to me essential to its completeness: first, a stern enforcement through the courts of the responsibilities of officers and directors, both criminal and pecuniary; and secondly, the assumption by the Government of the expense attending examinations.

Section 5209 of the Revised Statutes of the United States seems broad enough to cover most cases of misappropriation by directors and officers, and section 5230 subjects directors to pecuniary responsibility for all violations of law causing damages to depositors, stockholders or others.

When the capital of a bank is found to have been impaired by losses or otherwise, the Comptroller of the Currency is compelled to decide among the following:

1. He may permit a reduction of capital.
2. He may ~~allow~~ ^{authorize} a voluntary liquidation.
3. He may ~~authorize~~ ^{empower} the directors to assess the shareholders.

oration under section 5230 and sub-
~~inances~~ ^{inances} to stockholders or to others
 ed or permitted by them.

Manifestly the Comptroller can choose the latter course only when the losses can be shown to be fairly due to violations of law known to the directors as a body, and it is difficult to prove such knowledge, because the necessary evidence is generally controlled by the directors themselves. On the other hand, it is obviously unjust that stockholders should lose their investments, or be subjected to assessment, when the losses are due to violation of law committed within range of every director's scrutiny and often with the knowledge and for the benefit of one or more members of the board, but of which personal knowledge can not be specifically established in a sufficient number of cases.

It would appear from this point of view to be very important that the law should be so framed as to establish against all directors an antecedent presumption that they know and consent to whatever is done in the bank habitually, and to whatever else goes on there that an ordinarily intelligent business man would discover by the use of reasonable diligence.

If this were done, stockholders of national banks would come in for their due share of protection, and directors would attend to their duties more faithfully than many of them now do, while both the examinations, and the reports made to the Comptroller directly by the banks would be more trustworthy.

REPORTS.

The reports made by banks upon the requisition of the Comptroller are of two classes, those intended to inform the public as to each bank's condition and those intended for the information of the Comptroller only.

The reports intended for the public are required to be published, and it is the duty of the Comptroller to see that this requirement is complied with. To this end a copy of each publication has to be filed in the Bureau, together with the affidavit of the publisher, verifying the bank's compliance with the law as to the number of insertions.

During the past year 14,802 reports of condition, about 6,000 reports of dividends and earnings, and 2,833 reports from examiners have been received at the office of the Comptroller of the Currency, and fully 13,000 letters and circulars have been sent out in connection with them. The reports received are all carefully examined, compared with one another, and abstracts are made from them.

From these various reports, after examination and verification, the subjoined tables have been compiled, and other tables compiled from the same sources will be found in the Appendix, showing the condition of the reserve of national banks, their loans and discounts, abstract of reports of dividends and earnings, ratios to capital and to capital and surplus, and other valuable information as to the condition of the national banks on the date of the last report.

A large table, on folded sheet, appended hereto, exhibits for October 5, 1887, in aggregate, every detail embraced in the tabulated reports required of the banks. Similar tables are made up for the information of the Comptroller from the reports gathered from all banks five times each year. The amounts are given separately for each State, reserve, and

LOANS.

The following table gives a classification of the loans of the national banks in each of the cities of New York, Chicago, and Saint Louis, and in the three cities of Boston, Philadelphia, and Baltimore, in the other reserve cities, and in the rest of the country, at nearly the same dates in each of the last three years :

OCTOBER 1, 1885.

Classification.	No. of banks.	On United States bonds on demand.	On other stocks, bonds, etc., on demand.	On single-name paper without other security.	All other loans.	Total.
New York.....	44	\$3,286,124	\$80,687,285	\$25,331,820	\$127,518,889	\$236,823,598
Chicago.....	12	33,400	10,967,875	10,226,583	24,761,567	45,986,425
Saint Louis.....	6	588,019	1,197,060	123,550	7,473,788	9,182,417
Three cities.....	105	190,195	33,157,819	84,806,254	150,270,503	218,424,771
Other cities.....	80	103,735	13,256,157	8,130,100	74,713,004	96,263,596
Country.....	2,467	504,134	84,086,931	92,873,760	567,037,152	694,471,967
Total.....	2,714	4,565,607	173,302,697	171,492,087	931,795,003	1,801,155,394

OCTOBER 7, 1886.

Classification.	No. of banks.	On United States bonds on demand.	On other stocks, bonds, etc., on demand.	On single-name paper without other security.	All other loans.	Total.
New York.....	45	\$3,002,551	\$91,636,791	\$24,646,007	\$125,447,027	\$253,732,376
Chicago.....	15	85,900	10,663,098	12,592,921	32,058,515	55,401,542
Saint Louis.....	5	.....	1,028,430	855,372	8,291,068	9,675,371
Three cities.....	111	262,355	33,741,045	37,316,993	156,261,283	229,581,271
Other cities.....	86	400,188	16,358,793	12,539,705	86,900,964	116,177,686
Country.....	2,590	563,717	41,008,812	110,677,534	626,849,753	779,099,816
Total.....	2,852	3,214,721	196,415,477	198,128,533	1,045,809,509	1,443,668,240

OCTOBER 5, 1887.

Classification.	No. of banks.	On United States bonds on demand.	On other stocks, bonds, etc., on demand.	On single-name paper without other security.	All other loans.	Total.
New York.....	47	\$1,445,900	\$95,075,844	\$17,585,496	\$143,906,941	\$258,014,181
Chicago.....	18	500	10,821,735	15,496,366	34,754,972	61,076,193
Saint Louis.....	6	.....	1,182,214	279,103	8,920,936	10,382,753
Three cities.....	114	50,225	33,081,531	36,078,453	162,346,995	233,557,204
Other cities.....	109	122,910	19,551,230	18,598,299	115,167,332	153,439,761
Country.....	2,756	1,413,918	44,335,893	124,035,463	633,790,281	863,575,556
Total.....	3,049	3,033,453	206,048,447	212,076,270	1,158,867,477	1,580,045,647

In the table below is given a full classification of the loans in New York City alone for the last five years :

Loans and discounts.	October 2, 1883.	September 30, 1884.	October 1, 1885.	October 7, 1886.	October 5, 1887.
	48 banks.	44 banks.	44 banks.	45 banks.	47 banks.
On indorsed paper.....	\$121,644,201	\$116,010,063	\$114,013,775	\$121,381,360	\$115,316,625
On single-name paper.....	19,117,051	82,550,413	25,331,820	24,616,007	17,585,496
On U. S. bonds on demand.....	2,003,527	2,933,785	3,286,124	2,002,550	1,445,900
On other stocks, etc., on demand.....	91,321,605	60,805,215	80,687,265	91,630,791	95,075,611
On real-estate security.....	184,683	163,797	215,385	211,432	146,583
All other loans.....	7,717,265	3,681,375	13,280,239	13,854,215	28,444,431
Total.....	245,108,332	205,353,277	236,823,598	253,732,376	258,014,181

The following table exhibits, in the order of capital, the twenty-five States (exclusive of reserve cities) having the largest amount of national-bank capital, together with the amount of circulation, loans and discounts, and individual deposits of the banks in each on October 5, 1887:

States, etc.	No. of banks.	Capital.	Circulation.	Loans and discounts.	Individual deposits.
Massachusetts	198	\$44,790,500	\$21,459,692	\$91,561,545.60	\$53,872,217.39
New York	260	34,724,260	17,406,488	98,792,326.88	87,209,212.62
Pennsylvania	237	33,551,140	13,379,895	80,206,911.08	72,564,898.01
Connecticut	83	24,505,410	8,698,693	43,001,299.86	24,478,665.09
Ohio	192	22,796,020	9,008,920	50,833,330.24	41,268,742.23
Rhode Island	61	20,340,050	4,642,913	34,488,234.78	13,918,046.52
Illinois	160	14,341,500	4,219,305	35,605,100.86	35,161,306.04
Minnesota	58	13,740,000	1,675,725	37,857,045.49	27,037,970.02
New Jersey	81	13,024,220	6,060,523	40,439,717.10	38,644,239.18
Indiana	93	11,894,500	4,217,870	27,785,325.99	25,254,102.80
Michigan	100	10,674,600	2,679,585	29,418,596.69	23,315,420.44
Kansas	139	10,530,890	2,295,210	21,001,450.42	17,741,267.53
Baltimore	72	10,440,700	4,875,561	19,125,655.89	10,116,282.26
Iowa	128	10,150,000	2,712,622	25,728,940.64	19,284,697.83
Texas	91	9,919,750	2,107,535	20,157,203.67	13,710,426.47
Kentucky	59	9,758,000	3,055,890	17,464,746.62	10,476,083.07
Vermont	40	7,506,000	3,478,100	12,832,369.34	6,627,089.66
Tennessee	40	7,460,000	1,326,895	18,915,501.93	11,759,221.25
New Hampshire	49	6,205,000	3,583,015	9,651,606.49	6,123,423.51
Nebraska	95	6,006,100	1,345,220	13,619,256.37	9,964,472.02
Wisconsin	53	4,442,000	1,225,623	13,940,531.69	12,970,629.95
California	30	4,170,000	939,900	14,295,106.47	19,545,186.09
Virginia	25	3,790,300	1,204,380	10,786,627.63	9,786,470.26
Dakota	62	3,720,000	861,925	6,694,084.52	5,848,810.67
Alabama	20	3,485,100	782,330	8,366,324.95	5,925,317.73

TRANSACTIONS OF THE NEW YORK CLEARING-HOUSE.

The New York Clearing-House Association is composed of 65 members, of which 45 are national banks, 19 are State banks, and the other member is the assistant treasurer of the United States at New York. Two national banks and 15 State banks in the city do not belong to the association, but clear through associate members. Mr. W. A. Camp, the manager of the association, has kindly supplied the data for the following tables, showing the transactions during the year ending October 1, 1887:

COMPARATIVE STATEMENT FOR TWO YEARS OF THE TRANSACTIONS OF THE NEW YORK CLEARING-HOUSE, SHOWING AGGREGATE AMOUNT OF CLEARINGS, AGGREGATE BALANCES, AND THE KINDS AND AMOUNTS OF MONEY PASSING IN SETTLEMENT OF THESE BALANCES.

Year ending—	Aggregate clearings.	Aggregate balances.
October 1, 1890	\$33,374,682,216	\$1,519,563,385
October 1, 1887	34,872,848,785	1,509,026,324
Increase	1,498,166,569	50,000,939

KINDS OF MONEY AND AMOUNT OF EACH KIND.

Year ending—	U. S. gold certificates.	Bank of America gold certificates.*	Clearing-house loan certificates.	Treasury certificates for legal tenders, sec. 5193, U. S. Revised Statutes.	Legal tenders and minor coin.	Percentages.	
						Gold certificates.	Legal tenders.
October 1, 1886.	\$645,643,000	\$177,673,000	\$140,000	\$285,795,000	\$410,314,385	54.181+	45.894-
October 1, 1887.	812,231,000	748,409,000	None.	1,410,000	7,576,325	99+	1-
Increase ..	166,588,000	570,736,000	.....	.....	.....	.....	.....
Decrease ..	.....	.....	140,000	284,385,000	402,738,060	.....	.....

* When the Government ceased issuing gold certificates, December 1, 1878, the New York bank agreed to have a common depository for their gold coin, and in that way retain the use of certificates at the clearing-house. This has been found convenient and saves the expense and cost of moving large amounts in specie. The Bank of America performs this function.

Following is a comparative statement of transactions of the New York Clearing-House for thirty-four years, showing for each year the number of banks, aggregate capital, clearings, and balances, average of the daily clearings and balances, and the percentage of balances and clearings:

Years.	No. of banks.	Capital.*	Clearings.	Balances paid in money.	Average daily clearings.	Average daily balances paid in money.	Ratio.
1854	50	\$47,044,900	\$5,750,455,987	\$207,411,404	\$19,104,505	\$988,078	Per cent.
1855	48	48,884,180	5,362,912,098	289,694,137	17,412,052	910,565	5.1
1856	50	52,883,700	6,906,213,328	334,714,489	22,278,108	1,079,724	5.4
1857	50	64,420,200	8,333,226,718	365,318,902	26,968,371	1,182,246	4.8
1858	46	67,146,018	4,756,664,386	314,238,911	15,293,736	1,016,954	6.0
1859	47	67,921,714	5,448,005,956	363,984,683	20,867,333	1,177,944	5.6
1860	50	69,907,435	7,231,143,057	380,693,438	23,401,757	1,232,018	5.3
1861	50	68,900,605	5,915,742,758	353,283,944	19,269,520	1,151,088	6.0
1862	50	68,375,820	6,871,443,591	415,530,331	22,237,682	1,344,758	6.0
1863	50	68,972,508	14,867,507,849	677,626,483	48,428,657	2,207,252	4.6
1864	49	68,586,763	24,097,196,656	885,719,205	77,984,455	2,860,405	2.7
1865	55	80,363,013	26,032,384,342	1,035,765,108	84,796,040	3,373,828	4.6
1866	58	82,370,200	28,717,146,914	1,066,185,106	93,541,195	3,472,753	2.7
1867	58	81,776,200	28,675,159,472	1,144,963,451	93,101,167	3,717,414	4.6
1868	59	82,270,200	28,484,282,637	1,125,455,237	92,182,164	3,642,250	2.8
1869	59	82,720,200	37,407,028,987	1,120,318,308	121,457,293	3,637,397	2.7
1870	61	83,620,200	27,804,539,406	1,036,484,822	90,274,479	3,365,210	2.7
1871	62	84,420,200	29,300,986,682	1,209,721,029	95,183,074	3,927,096	4.1
1872	61	84,420,200	33,844,369,568	1,428,582,797	169,884,817	4,636,682	4.2
1873	59	83,370,200	35,461,052,826	1,474,508,025	116,885,794	4,818,654	4.1
1874	59	81,635,200	22,855,927,636	1,286,754,176	74,692,574	4,203,076	5.7
1875	59	80,435,200	25,061,237,902	1,404,608,777	81,998,470	4,603,297	5.6
1876	59	81,731,200	21,597,274,247	1,295,042,029	70,349,428	4,218,578	5.9
1877	58	71,085,200	23,289,243,701	1,373,990,302	76,536,176	4,504,966	5.9
1878	57	63,611,500	22,568,438,442	1,307,843,857	73,555,988	4,274,009	5.8
1879	59	60,800,200	25,178,770,691	1,400,111,063	82,015,540	4,590,622	5.6
1880	57	60,475,200	37,182,128,621	1,516,538,631	121,510,224	4,956,009	4.1
1881	60	61,162,700	48,595,818,212	1,776,018,182	159,232,191	5,823,010	2.5
1882	61	60,962,700	40,552,846,161	1,595,000,245	151,637,935	5,195,440	2.4
1883	63	61,162,700	40,266,165,258	1,548,983,196	132,543,607	5,161,123	2.9
1884	61	60,412,700	34,092,037,338	1,524,930,994	111,048,982	4,867,292	4.5
1885	64	58,012,700	25,250,791,440	1,295,355,252	82,789,480	4,247,069	5.1
1886	63	59,312,700	33,374,682,216	1,519,565,385	109,067,589	4,965,909	4.5
1887	64	60,862,700	34,872,848,786	1,568,626,325	114,337,209	5,146,316	4.5
		169,430,325	1,812,942,769,870	35,758,618,204	177,959,820	13,429,623	4.4

* The capital is for various dates, the amounts at a uniform date in each year not being obtainable.
† Yearly averages for thirty-four years. ‡ Totals for thirty-four years.

REPORT OF THE SECRETARY OF THE TREASURY. 199

clearing-house transactions of the assistant treasurer of the States at New York for the year ending October 1, 1887, were as:

es received from clearing-house.....	\$359,782,103.42
es delivered to clearing-house.....	111,471,810.74
paid to clearing-house.....	248,497,702.25
received from clearing-house.....	181,409.57

that the amount paid by the assistant treasurer to the clearing-house was in excess of the amount received by him..... 248,316,292.68

debit balances were paid to the clearing-house as follows:

tates gold certificates.....	\$248,343,000.00
iders and change.....	154,702.25
	248,497,702.25

COMPARATIVE STATEMENT OF THE EXCHANGES OF THE CLEARING-HOUSES OF THE UNITED STATES FOR OCTOBER, 1887, AND OCTOBER, 1886.

Clearing-house at—	Exchanges for month of October, 1887.	Exchanges for month of October, 1886.	Comparisons.	
			Increase.	Decrease.
.....	\$2,978,940,406	\$3,248,318,001		\$269,377,655
.....	387,775,488	380,669,570	\$7,105,918	
la.....	272,500,752	271,572,441	928,311	
.....	267,556,120	253,518,821	14,037,299	
.....	74,855,031	69,832,165	5,032,866	
.....	56,795,652	53,856,829	2,938,823	
seo.....	74,405,637	56,175,257	18,230,380	
.....	46,775,068	37,612,868	9,162,198	
la.....	42,603,842	31,683,200	10,920,642	
.....	47,782,200	45,384,750	2,397,450	
.....	23,837,500	22,663,609	1,173,900	
.....	23,210,780	19,093,914	4,116,866	
.....	20,123,277	20,183,280		60,003
.....	18,374,879	14,928,506	3,446,373	
.....	14,340,059	12,527,278	1,812,781	
is.....	8,777,900	6,222,279	2,555,621	
y.....	29,792,891	25,993,960	3,799,031	
.....	7,630,018	7,195,784	434,234	
.....	5,360,758	5,175,379	185,379	
.....	10,616,739	8,462,124	2,154,615	
.....	10,725,296	7,666,552	3,058,744	
.....	5,429,418	4,220,762	1,208,656	
.....	4,722,433	4,528,762	193,671	
.....	5,653,280	3,669,715	1,983,565	
.....	3,161,806	2,732,069	429,737	
.....	3,193,442	2,735,744	457,698	
.....	4,007,632	4,064,196		56,564
.....	12,759,306	9,316,954	3,442,352	
h.....	6,659,426	4,447,511	2,211,915	
.....	10,812,463	8,351,817	2,460,646	
.....	8,865,282	7,852,246	1,013,036	
.....	18,376,835	19,732,700		1,355,865
.....	22,805,050	19,175,451	3,629,599	
.....	5,160,514	New.	5,160,514	
ids.....	2,725,818	2,066,301	719,517	
.....	2,844,645	1,826,292	1,018,353	
.....	5,817,933	4,465,766	1,352,167	
.....	4,546,381,714	4,695,480,744	120,425,122	269,534,152
.....		4,546,381,714		120,425,122
.....		149,089,030		149,089,030

COMPARATIVE STATEMENT OF THE EXCHANGES OF THE CLEARING-HOUSES OF THE UNITED STATES FOR WEEKS ENDING OCTOBER 29, 1887, AND OCTOBER 30, 1888.

Clearing-house at—	Exchanges for week end- ing October 29, 1887.	Exchanges for week end- ing October 30, 1888.	Comparisons.	
			Increase.	Decrease.
New York	\$647,590,729	\$625,098,064	\$22,492,665	
Boston	83,700,976	77,443,134	6,257,842	
Philadelphia	58,729,071	55,262,510	3,466,561	
Chicago	58,407,000	49,463,000	8,944,000	
Saint Louis	16,057,751	13,428,029	2,629,722	
Baltimore	12,618,840	11,554,889	1,063,951	
San Francisco	17,495,345	14,931,044	2,564,301	
Pittsburgh	11,708,842	8,543,709	3,165,133	
New Orleans	9,863,406	7,861,710	2,001,696	
Cincinnati	9,799,950	9,682,250	117,700	
Providence	5,957,900	5,482,100	475,800	
Louisville	4,800,855	3,980,646	820,209	
Milwaukee	4,702,794	4,741,945		\$39,151
Detroit	4,070,159	2,964,573	1,114,586	
Cleveland	3,263,297	2,980,490	282,807	
Indianapolis	2,130,383	1,364,108	766,275	
Kansas City	7,407,620	5,564,678	1,842,942	
Hartford	1,482,341	1,529,645		47,304
New Haven	1,101,904	1,088,433	13,471	
Columbus	2,285,210	1,861,425	423,785	
Memphis	2,532,120	2,039,907	492,123	
Peoria	1,177,411	927,149	250,262	
Worcester	969,381	917,916	51,465	
Springfield	1,007,778	819,206	188,572	
Lowell	650,419	501,913	148,506	
Syracuse	625,190	544,611	80,579	
Portland	1,039,033	1,087,952		48,919
Omaha	2,812,343	2,037,837	774,506	
Saint Joseph	1,702,006	799,574	902,432	
Denver	2,800,391	1,571,233	1,229,158	
Galveston	2,193,758	1,625,966	567,772	
Saint Paul	4,108,446	3,410,590	697,856	
Minneapolis	4,806,272	3,677,381	1,128,891	
Los Angeles	1,133,462	New.	1,133,462	
Total	990,741,383	924,790,717	66,086,040	135,374
	924,790,717		135,374	
Increase	65,950,666		65,950,666	

REPORT OF THE SECRETARY OF THE TREASURY. 201

The following table, compiled from returns made to the Clearing-House by the national banks in New York City, exhibits the movement of their reserve, weekly, during October, for the last eleven years:

Week ending—	Specie.	Legal tenders.	Total.	Ratio of reserve to—	
				Circulation and deposits.	Deposits.
				<i>Per cent.</i>	<i>Per cent.</i>
October 6, 1877	\$14,665,600	\$36,168,700	\$50,833,900	27.0	29.5
October 13, 1877	14,726,500	35,178,900	49,905,400	26.7	29.2
October 20, 1877	14,087,400	35,101,700	49,189,100	26.5	29.0
October 27, 1877	15,209,000	34,367,800	49,576,800	26.8	29.4
October 5, 1878	14,995,800	38,304,900	53,300,700	25.7	28.4
October 12, 1878	12,184,600	37,685,100	49,869,700	24.4	27.0
October 19, 1878	13,531,400	36,570,000	50,107,400	24.7	27.3
October 26, 1878	17,384,200	35,690,500	53,074,700	25.8	28.5
October 4, 1879	18,979,600	34,368,000	53,347,600	23.3	25.8
October 11, 1879	20,501,800	32,820,300	53,322,100	23.4	25.9
October 18, 1879	24,686,500	29,305,200	53,991,700	23.5	26.1
October 25, 1879	25,636,600	26,713,000	52,349,600	23.0	25.5
October 2, 1880	59,823,700	11,129,100	70,952,800	25.4	26.4
October 9, 1880	62,521,300	10,785,000	73,306,300	25.4	27.2
October 16, 1880	62,760,600	10,929,200	73,689,800	25.5	27.1
October 23, 1880	60,888,200	10,988,200	71,876,400	24.8	26.6
October 30, 1880	61,471,600	10,925,000	72,396,600	25.0	26.7
October 1, 1881	54,954,600	12,150,400	67,105,000	23.1	24.8
October 8, 1881	53,287,000	12,153,800	65,441,700	23.1	24.9
October 15, 1881	51,008,300	12,452,700	63,461,000	23.2	25.0
October 22, 1881	54,016,200	12,496,500	66,512,700	24.6	26.6
October 29, 1881	55,961,200	12,917,000	68,900,100	25.6	27.4
October 7, 1882	47,016,000	18,384,500	65,400,500	24.0	26.3
October 14, 1882	48,281,000	18,062,700	66,343,700	24.7	26.6
October 21, 1882	49,518,200	17,023,900	66,542,100	25.0	26.8
October 28, 1882	48,374,200	17,204,700	65,578,900	24.8	26.5
October 6, 1883	51,586,700	20,122,500	71,709,200	25.5	27.0
October 13, 1883	50,894,000	21,145,800	72,039,800	23.4	26.8
October 20, 1883	47,262,900	20,719,700	67,982,600	24.5	25.9
October 27, 1883	46,372,800	20,617,600	66,990,400	24.5	25.9
October 4, 1884	67,470,600	25,817,300	93,287,900	34.5	36.3
October 11, 1884	68,922,500	27,654,100	96,576,600	35.2	36.9
October 18, 1884	67,579,400	27,875,500	95,454,900	34.8	36.5
October 25, 1884	67,638,000	27,354,200	94,992,200	34.6	36.3
October 3, 1885	92,351,600	24,516,600	116,868,200	36.0	37.1
October 10, 1885	93,642,500	23,002,000	116,644,500	35.8	37.0
October 17, 1885	91,945,300	22,221,100	114,166,400	34.9	36.0
October 24, 1885	87,309,100	21,059,800	108,368,900	33.5	34.5
October 30, 1885	84,954,600	21,874,900	106,829,500	33.0	34.1
October 2, 1886	64,111,700	14,607,700	78,719,400	27.1	27.9
October 9, 1886	65,723,800	13,209,100	78,932,900	27.0	27.7
October 16, 1886	65,228,600	13,133,100	78,361,700	26.7	27.4
October 23, 1886	65,668,400	12,803,800	78,472,200	26.9	27.7
October 30, 1886	66,195,100	13,177,200	79,372,300	27.1	27.9
October 1, 1887	64,619,200	15,767,500	80,386,700	27.7	28.5
October 8, 1887	64,317,500	16,229,700	80,587,200	27.4	28.2
October 15, 1887	64,663,100	16,885,400	81,548,500	27.3	28.1
October 22, 1887	64,918,700	16,735,500	81,654,200	27.4	28.2
October 29, 1887	66,005,800	17,542,600	83,548,400	27.8	28.6

The following table exhibits the transactions of the clearing-houses located in 37 cities for the year ending September 30, 1887, from official returns received from the manager of the New York Clearing-House, and a comparison is made with the year ending September 30, 1886, by indicating the increase or decrease in the exchanges and balances:

Clearing-house at—	No. of members.	Exchanges for year ending September 30, 1887.	Balances for year ending September 30, 1887.	Comparison with year ending September 30, 1886.		
				Increase.		Decrease.
				Exchanges.	Balances.	
New York.....	65	\$34,872,848,786	\$1,569,626,325	\$1,498,166,570	\$50,060,940	.....
Boston.....	52	4,498,269,093	519,625,457	399,704,727	17,527,457	.....
Philadelphia.....	40	3,186,188,935	298,701,297	400,313,485	40,694,877	.....
Chicago.....	21	2,887,276,659	301,574,676	326,906,787	10,348,598	.....
Saint Louis.....	18	879,272,738	142,250,972	78,902,128	.....	*\$6,587,004
Baltimore.....	23	663,676,756	89,504,281	65,091,703	7,970,677	.....
San Francisco.....	17	809,092,859	124,200,215	200,751,798	17,215,771	.....
Pittsburgh.....	19	490,319,705	81,520,888	104,021,001	7,404,776	.....
New Orleans.....	13	412,231,400	47,895,607	.....	805,607	121,768,600
Cincinnati.....	19	564,377,200	90,204,200	71,936,700	11,143,200	.....
Providence.....	24	240,838,100	No record.	6,987,400	.....	.....
Louisville.....	21	269,789,547	63,564,157	39,652,000	8,923,080	.....
Milwaukee.....	11	240,127,909	40,817,909	46,350,700	6,411,187	.....
Detroit.....	14	188,629,384	31,729,276	40,642,642	6,430,910	.....
Cleveland.....	11	169,010,840	No record.	39,914,603	.....	.....
Indianapolis.....	6	87,149,519	18,660,734	17,790,711	8,763,227	.....
Kansas City.....	9	380,407,069	No record.	115,397,601	.....	.....
Hartford.....	15	89,871,078	25,689,768	2,893,509	.....	*\$16,181
New Haven.....	10	63,931,325	15,176,602	7,089,963	1,434,272	.....
Columbus.....	17	53,311,425	8,378,419	10,470,012	.....	*4,630,118
Memphis.....	7	94,241,400	24,020,213	18,899,007	4,621,463	.....
Peoria.....	9	55,006,344	13,974,158	16,674,956	3,865,638	.....
Worcester.....	8	47,197,687	13,466,230	5,640,668	817,142	.....
Springfield.....	10	50,593,291	14,929,388	9,250,560	2,255,628	.....
Lowell.....	7	31,670,050	10,198,302	4,909,878	1,687,183	.....
Syracuse.....	8	28,560,708	6,558,243	1,819,356	210,189	.....
Portland.....	6	49,588,652	9,495,080	2,921,292	639,007	.....
Omaha.....	8	137,220,535	No record.	.....	.....	125,079,363
Saint Joseph.....	7	67,230,133	17,667,401	23,464,120	5,747,699	.....
Denver.....	7	110,240,167	15,860,791	.....	2,613,999	134,631,886
Galveston.....	7	63,182,537	No record.	.....	.....	19,020,259
Saint Paul.....	15	200,364,307	33,193,845	57,807,724	.....	.....
Minneapolis.....	14	184,700,622	30,465,326	24,370,250	5,624,602	.....
Los Angeles.....	7	New.	New.	New.	.....	.....
Grand Rapids.....	7	26,229,598	5,670,886	No record 1886	.....	.....
Duluth.....	7	New.	New.	New.	.....	*\$15,650
Norfolk.....	6	40,016,323	6,453,157	263,629	.....	.....
Total.....	575	52,126,704,488	3,667,708,563	3,036,978,270	222,267,149	{ 90,796,190 12,349,310

* Balances.

† Exchanges.

From the above table it will be seen that the exchanges in New York City amounted to 66.9 per cent. of the whole sum, and the balances in that city were nearly 42.8 per cent. of the total balances.

DUTIES, ASSESSMENTS, AND REDEMPTION CHARGES.

National banks are subject to a semi-annual duty of one half of 1 per cent. upon the average amount of their notes in circulation during the preceding six months. They are also required by the act of June 20, 1874, to pay the cost of the redemption of their notes at the office of the Treasurer of the United States at Washington, and the cost of the plates from which their notes are printed. Banks extending their corporate existence have to pay for new plates. Previously to the act of June 20, 1874, the expense of the plates had been paid out of the tax

on the banks, which at that time attached to capital and deposits as well as to circulation.

The banks are further required to pay the fees of the examiners employed to ascertain their condition, under section 5240, Revised Statutes of the United States.

The taxes and assessments collected during the past year were as follows :

Semi-annual duty on circulation.....	\$2, 044, 922. 75
Cost of redemption of notes by United States Treasurer.....	138, 967. 00
Assessments for cost of plates, new banks.....	18, 850. 00
Assessments for cost of plates, extended banks.....	1, 750. 00
Assessments for examiners' fees, sec. 5240, R. S.....	110, 219. 88
Total.....	2, 314, 709. 63

It has not been customary heretofore to include assessments with taxes, but it seems proper to do so.

The following table is a comparative statement of taxes assessed as semi-annual duty on circulation, cost of redemption of notes, cost of plates, and examiners' fees for the past five years:

Years.	Semi-annual duty on circula- tion.	Cost of redemption of notes by United States Treasurer.	Asses- ments for cost of plates, new banks.	Assessment for cost of plates, extended banks.	Assess- ment for examiners' fees (sec. 5240, R. S.).	Total.
1882.....	\$3, 132, 006. 73	\$147, 532. 27	\$23, 980. 00	\$34, 120. 00	\$94, 606. 16	\$3, 434, 305. 16
1884.....	3, 024, 068. 24	160, 896. 05	18, 815. 00	1, 950. 00	90, 642. 05	3, 306, 001. 94
1885.....	2, 794, 584. 01	181, 857. 16	13, 150. 00	97, 800. 00	107, 781. 73	3, 195, 172. 90
1886.....	2, 592, 021. 33	168, 243. 35	14, 810. 00	24, 825. 00	107, 272. 83	2, 907, 172. 51
1887.....	2, 044, 922. 75	138, 967. 00	18, 850. 00	1, 750. 00	110, 219. 88	2, 314, 709. 63
Total.....	13, 588, 203. 06	797, 556. 43	91, 635. 00	160, 445. 00	510, 522. 65	15, 157, 362. 14

The total tax collected on circulation up to July 1, 1887, amounted to \$65,841,721.30.

CONCLUSION.

I have the honor to submit in the Appendix, page 165, a summary of communications received from various parts of the country during the last year and a half, suggesting modifications of the laws by which, in the opinion of the writers, the national banking system would be improved and perpetuated.

Upwards of forty plans have been suggested, which are appropriately classed under five propositions, viz :

1. To do away with the note-issuing function of the banks.
2. To increase the inducements for the banks to deposit United States bonds as a basis of national-bank circulation.
3. To provide by a new issue of bonds for a continuance of the present or of some modified system of national-bank circulation based on United States bonds.

4. To substitute some other security for United States bonds deposited in the Treasury as a basis for national-bank circulation.

5. To allow the banks to issue circulation upon their general credit, without requiring specific security to be deposited.

The various suggestions for the deposit of gold and silver as a basis of circulation have been left out of consideration, because, as they contemplate deposits equal in value to the currency to be issued, they con-

tain no inducement either to the public or to the banks to adopt them and, therefore, they are obviously impracticable. The Treasury now issues gold and silver coin certificates, which answer all the purposes of such currency.

Among the propositions above stated, that which contemplates maintaining the national-bank system without any currency feature is hardly worth considering so long as it is generally conceded that Congress has no certain authority under the Constitution to charter banks that do not issue currency.

The fourth proposition, viz, to substitute State, county, and municipal securities for United States bonds as a basis of circulation, is subject to the fatal objection that the power to accept some and reject others among those securities would have to be lodged somewhere, and as its exercise would incidentally raise and depress the prices of such securities, it would be dangerous to adopt any scheme involving the confiding of such power to any official or any board.

There remain, therefore, but three propositions to be considered as within the range of probable adoption :

I.—Proposition second, to increase the inducements for the banks to deposit United States bonds as a basis of national-bank circulation.

II.—Proposition third, to provide by a new issue of bonds for a continuance of the present or of some modified system of national-bank circulation based on United States bonds.

III.—Proposition fifth, to allow the banks to issue circulation upon their general credit without requiring specific security to be deposited.

Before considering these propositions separately, it is important to observe that the case to be dealt with is that of 3,061 banks now in full operation, with bonds to the aggregate amount of \$188,823,000 deposited in the Treasury, on which there is outstanding \$169,215,067 of circulation.

It is obvious that this fact must exercise a controlling influence upon the discussion, because it has a paramount bearing upon the two fundamental questions, viz:

First, what is practicable, and, secondly, what is expedient?

A third question may be raised, viz, what is just to the banks? But this question is really merged in the other two, because the relations between the banks and the public are such as to render any unjust measure both inexpedient and impracticable.

It must be obvious, on merely looking at the question from this point of view, that many things that might be practicable or expedient, or both, if we were now initiating a national-bank system, may be impracticable or inexpedient when applied to the existing system.

In discussing the three propositions, therefore, their relative abstract merits must be regarded as subordinate to the effect they will have, severally, upon existing arrangements.

In order to apply this method of inquiry intelligently and effectively we must determine, first, what is sought to be remedied, and, secondly, what is sought to be accomplished beyond merely applying remedial measures.

Speaking broadly, it may be assumed that remedies are sought, first, for the present continual reduction in the volume of national-bank circulation, and, secondly, for the obstacles which the scarcity and high prices of United States bonds present to the formation of new banks and to the increase of capital on the part of those already existing.

Beyond remedying these defects in the present law, there is a general desire to provide a permanent, safe, and popularly acceptable basis for

the continued existence and the future growth of the national-bank system.

To judge properly whether any measure designed to remedy present defects or to accomplish the other ends named is likely to prove both practicable and expedient, as applied to existing conditions, note must be taken of how such a measure will affect banks differently situated, either geographically or financially, or both, because very great differences in these respects really exist among the banks, and what would attract some of them would repel others.

It will be necessary, therefore, to bear in mind that out of the 3,049 banks in operation on October 5 last, 2,150 have \$150,000 capital or less, while among the rest there are 107 banks of which the capital is \$1,000,000 or over, and 6 of which the capital amounts to \$3,000,000 or over.

The 2,150 smaller banks are required by law to hold an amount of bonds equal to 25 per cent. of their capital, while the others, however large their capital, need hold but \$50,000 of bonds, which is 10 per cent. on \$500,000 capital, 5 per cent. on \$1,000,000, and only 1 per cent. on \$5,000,000, a discrimination which has become more and more unfavorable to the smaller banks as the bonds have become scarcer and dearer.

If all banks should be required to hold 25 per cent. of their capital in bonds, as the smaller banks are, the larger banks would quit the system, contracting the circulation by nearly \$100,000,000, while, on the other hand, if the minimum of the smaller banks is reduced to, say, 10 per cent. of capital, which is about the average now required of the larger banks, it is probable that many more banks would be formed and that some of the small banks would increase their capital.

Having thus before us some of the limitations which encompass the solution of the problem, let us consider the three propositions in the order named:

1. To render the holding of United States bonds more profitable to the banks.

Of course this proposition rests upon the assumption that it is desirable for the banks to be encouraged or enabled to hold United States bonds, but this assumption needs to be substantiated. There was a time when it was important that every possible inducement should be given the banks to take these bonds, but this time is past, and the ability of the banks to do as much for the Government in some future emergency will be greatly increased by their being not only free, but inclined to dispose of all the bonds they now hold in excess of the minimum requirement. From the point of view of the Government, therefore, a very important resource in time of future need is curtailed by the banks being needlessly holders of United States bonds at a time of profound peace, and when the credit of the Treasury is at its zenith.

The proposition presents to the banks an aspect varying according to circumstances. Of course as long as the holding of bonds is obligatory every bank would like to have this holding made more profitable, but all banks are not situated alike in regard to the profitableness of circulation based on bonds. Some banks now hold much larger amounts of bonds than the law requires, while others profess to be excluded from the system because the holding of even the minimum is too great a burden; hence it must be inferred that some banks find a profit in such investments under conditions that inflict loss upon others. If, therefore, the holding of these bonds is rendered profitable to the latter class, the degree of its profitableness to the former class will be proportionately increased. This is stated by way of illustration merely and not

as an objection, because, obviously, if a commensurate public advantage is secured by this augmentation of profit the incidental benefit to some banks should not be begrudged.

The most important consideration, however, is as to what the gain would be to the public regarded as distinct from the Government and the banks. Manifestly the only result that can possibly be claimed as a public gain would be a probable increase of bank-note circulation based on bonds, or at least the maintenance of the present volume of such circulation; hence the question as to the public gain involves the precedent question whether increasing the profitability of bonds as a basis for circulation is likely to increase permanently the volume of national-bank circulation.

In the case of these bonds, as of other securities of stable intrinsic value dealt in by the general public, the market price varies directly and the amount on sale at any given time varies inversely with the number and means of purchasers, while under normal conditions purchasers vary in number and means according to the profitability of the investment. Now, it is demonstrable that it is only the circulation obtainable upon depositing them in Washington that renders the holding of United States bonds in any degree profitable to national banks, while they are sought for and tenaciously held by other investors, who are excluded from obtaining circulation on them; hence it is probable that the present tendency to contraction of the national-bank currency is due to the scarcity and high price of bonds, resulting from the competition between new banks and outside investors for the few bonds on sale. If this is so, it follows that as the circulation is rendered more profitable the premium should go higher; and since almost all the bonds now offered for sale belong to banks reducing their circulation, the supply on the market will be seriously curtailed by any change of the law that renders it more profitable to the banks to buy these bonds than to sell them.

If this reasoning is correct, new banks can gain nothing by such measures as we are now considering, because, while they will still have to compete for their bonds with outside investors, they will also remain exposed to competition with the existing banks that are now able to get the most profit out of circulation, nor will existing banks generally be benefited, since there will remain the same disparity as now between those more and those less favorably situated for holding bonds. This reasoning carried to its ultimate results, will be found to establish the proposition that should the holding of bonds be rendered more profitable to the banks, the whole benefit will accrue to those which find such investments profitable now, and the only increase of circulation to be relied upon will be such as these banks may take out in addition to what they now have, while, per contra, the higher premium will discourage the formation of new banks and increase the insecurity now felt as to the permanence of the system.

What is desirable from the point of view of those who desire the banks to increase in number and to expand their circulation is that bonds shall decline in price, whereas all these plans tend to elevate their price, because they tend to render the holding of them by banks more profitable than it is now.

This reasoning applies to all those plans which involve raising the amount of note issues in proportion to the face of the bonds, taking the tax off circulation, etc.; but there would seem to be no objection to taking the tax off so much of the circulation as rests on the minimum amount of bonds required by law to be deposited, while such relief

would be eminently just, because this being obligatory it should be made as little burdensome as possible, and it will chiefly apply to small banks remote from money centers and which are now required to hold an amount of bonds greatly exceeding in percentage upon capital the amount required of larger banks.

The second of the three practicable propositions contravenes the settled policy of Congress, which is to reduce and ultimately to extinguish the national debt, and therefore not to issue any bonds having remote maturities. The leading authorities of both political parties, the press of the country, and the people generally have approved this policy, and therefore it seems idle to expect legislation to the contrary, even for the purpose of preserving the banks.

If a suspension of this policy were the sole possible condition of preserving the banks there might be a bare possibility of its consideration, but no such argument can be sustained.

The last of the feasible projects, viz, proposition fifth, seems to be the only one containing a general principle under which the national-bank system may possibly be perpetuated. This principle is that while preserving all the other features of the system the main volume of bank currency should rest upon the credit and resources of the banks and not upon the credit of the Government.

All existing banks are entitled to the privilege of issuing circulating notes to the extent of 90 per cent. of the par of the United States bonds deposited, and this privilege can not justly be curtailed in any case without the consent of the bank. It is prudent also, on the part of the Government, to leave the law unchanged in this respect, for an emergency may hereafter arise when it will be very important to resort to the measures of 1863 for rallying the banks to the support of the Treasury, and in such a case it would be convenient to have all the machinery in working order.

On the other hand, there may be good reason why banks which are now being constrained by various influences to bring their circulation on bonds down to the minimum, should be accorded the privilege of issuing currency in addition to that secured by the bonds, if such issues can be subjected to conditions that will preserve the present high credit of the national-bank currency.

With the reservation, therefore, that whatever new legislation is proposed should be additional to, and not in repeal of, existing laws as to the deposit of bonds, whether obligatory or optional, and as to the privilege of issuing currency to 90 per cent. of such deposits, we may proceed to the examination of the plans grouped under proposition fifth.

These plans are ten in number, and they may be arranged in sub-groups according to the basis which they propose for the issue of circulation additional to that which is secured by United States bonds. This basis varies in the different plans: First, according to the volume of circulation to be permitted; second, according to the security underlying the bank-notes; third, according to the provision made for their redemption.

The limitation of volume varies in the different plans from 25 per cent. to 100 per cent. upon capital, but no reasons are assigned in any case for the percentage proposed. It seems to be assumed that this is a matter of either fanciful or purely arbitrary selection.

As to security, there are four distinct propositions:

1. To depend solely upon the present provision of the law which makes the circulating notes a first lien upon all the assets of a failed bank.

2. To add to this the requirement that a reserve of 25 per cent. of lawful money shall be kept on hand by each bank.

3. To create a guaranty fund in the Treasury by devoting to that object the profit on lost circulation and the gradual accumulation from an annual tax of 1 per cent.

4. To make the banks mutual guarantors of each other's issues, the notes of each bank, however, to constitute a first lien upon its assets.

The provision for redemption varies in this way:

1. An annual tax of 1 per cent., of which the proceeds shall be used as a redemption fund.

2. The present 5 per cent. redemption deposit.

3. A pro rata assessment on all the issuing banks to whatever amount experience may indicate as sufficient.

Since all these plans embrace the maintenance of the present provision that the notes constitute a first lien upon all the assets of a failed bank, it is proper to consider this feature first.

The law now makes this lien a security for only the deficiency between the proceeds of deposited bonds and the outstanding circulation. No case of such deficiency has, I believe, ever arisen, and in the present state of the market for United States bonds, none is likely to arise; hence the preference thus secured to note-holders over all other creditors of a national bank has never been enforced nor has its existence in the law affected the general credit of these institutions. Never having had any practical significance it is generally lost sight of.

Obviously it will be very different when a currency is issued not specially secured at all, and which in every case of insolvency must be redeemed wholly out of the general assets before these become subject to the claims of depositors.

The national banks owe their present prosperity entirely to the confidence of the general public, and this confidence is manifested in the volume of individual deposits, which in the aggregate amount to \$1,250,000,000, or $2\frac{1}{2}$ times the aggregate capital of the banks.

These deposits constitute the chief resource of the banks, and hence it would be a hazardous thing to introduce into the system any feature likely to disturb the confidence of depositors.

The issue of preferred notes to the amount of even 25 per cent. of the capital, the lowest limit proposed, would be a serious matter to depositors, while such issues to the amount of 50, 75, and 100 per cent. of capital, as some suggest, would probably cripple fatally the general credit of the banks with prudent depositors, and in that way their means of accommodation would be curtailed in a ratio greater than the increase of such means derived from the additional issues of currency.

It is much more important to the banks as a body to retain and augment their deposits than to acquire the power to issue more currency and the public have even a greater interest than the banks in the preservation of this condition of things, because the credit that attracts deposits is always better founded than that which floats currency, and is also more jealously guarded by the banks enjoying it, and is therefore less likely to be abused.

It is, indeed, doubtful whether any really strong and prudent bank would like to risk their credit with depositors by issuing notes as a first lien on their assets, and in that case if the proposition led to the establishment of such a bank currency at all, notes would be issued chiefly by banks having small deposits and their assets might very easily be so handled as to constitute a very poor security, even for the preferred notes. There would certainly be great temptation to a bank to become

speculative when once it had floated all the currency allowed and found itself free from the observation of numerous and vigilant local depositors.

If these views are correct, they would seem to be fatal to all schemes of establishing a bank currency secured only by a first lien upon all the assets of the issuing bank, unless some sufficient counterpoise to the objections can be found among the various suggestions as to a 25 per cent. reserve, a sinking fund deposited with the Government, the consolidation of all issuing banks into one association, etc.

While none of these devices appears to me likely to prove practically effective in removing the objections, it is probable that considerable diversity of opinion will arise on the subject, and as individual views can not be anticipated, it seems useless to spread the discussion over the whole field of possible contention. It is important, however, to bear in mind that any computations as to the proper ratios of reserve or redemption funds to the volume of currency, which may be drawn from the history of national-bank circulation, will be misleading, because the conditions heretofore obtaining will all be changed when, on the one hand, banks have every temptation to force out circulation, and, on the other hand, the public acquire the habit of presenting these notes for redemption every time the general credit of the bank is affected.

In times of panic now, banks have to take care of their depositors only, the ordinary process of the redemption of notes is not materially varied, nor is the volume of general currency diminished, but when there is no special security behind these notes, the case will be very different; every rumor of monetary trouble will bring both the note-holders and the depositors clamoring for payment, and just when there is most need of money to pay them with, the currency will be contracted by the discredit of national-bank circulation.

In answer to these general objections to the first lien principle, it may be said, of course, that the assets of the bank will be increased by the whole amount of its issue of notes, while now its assets are actually diminished by the difference between the cost of the bonds and the circulation received from the Government. This is very true; and if those assets were set aside, as the bonds now are, as specific security for the notes, and if, moreover, they could be always maintained in a form as intrinsically valuable and as readily convertible as the bonds are, the force of the objection would be destroyed; but no one familiar with practical banking can really believe that either of these conditions could be maintained in even a single case, while it is more than probable that in most cases they would be disregarded, and the old adage "easy come, easy go" would receive fresh illustration from numerous instances in which the facility of uttering currency would lead, as it did under the old State-bank system, to very lax and speculative methods of employing the resources so obtained.

If the views here submitted are correct, it would appear that no substitute yet proposed for the present basis of national-bank circulation is sufficiently free from objection to be adopted. The 4-per cent. bonds will not mature for twenty years; and, apart from other considerations, there is enough in this fact to justify caution and delay in making any radical change in the basis of circulation. In that time, no doubt, something acceptable will be devised, but at present all that seems practicable is to modify the existing law so as to obviate its inconveniences, and as a first step toward this end it appears both safe and wise to reduce the minimum amount of bonds to be kept on deposit.

This is, no doubt, quite a safe step, because capital is no longer attracted to the system or held in it by any profit derived from circulation, or by the prospect of any profit to be made by holding bonds.

These early inducements have been replaced by others of a more permanent and satisfactory character. The high credit attaching to national banks, the business-like methods cultivated in their relations with the public, and other similar influences developed within the system itself, constitute a cohesive attraction, which makes it stronger to-day than it has ever been before. Reducing the minimum requirement as to bonds, therefore, can not weaken the system. Concurrent with the progress of this healthful change in the system itself, the bonded debt of the United States has been gradually reduced in amount and refunded at lower rates of interest, while such is the investment demand that the still outstanding bonds of every class are constantly becoming scarcer on the market; indeed, there is hardly any longer a regular market for United States bonds, because they are held almost entirely either by a limited class of investors, who rarely care to sell, or by national banks, which in many cases can not sell.

One effect of this condition of things is to make the obligation to deposit bonds a serious obstacle to the formation of new banks in the sections where they are most needed, and to the increase of capital on the part of those banks of which the capital does not already exceed \$150,000.

The public needs and demands a continual increase of banking facilities, and to supply those facilities it is necessary to have not only more banks, but banks in a greater number of localities, and also some increase of capital among banks previously established.

The need of such increased facilities is coextensive with the country, but it is most pressing in those sections where the growth of population and the expansion of industry are year by year outstripping the measure of accommodation afforded by local capital.

To such communities the national-bank system affords opportunities otherwise unobtainable for bringing to the development of their resources supplies of capital from the remote centers of cheap and abundant money; hence, any obstacles to the growth of this system in our newer States and Territories is a more serious matter than it is elsewhere.

Another effect of the laws as they now stand is to deprive the national-bank circulation of the little elasticity possible to it, because the volume of this circulation varies with the amount of bonds held by the banks, and not only are bonds too scarce and dear to be freely bought and sold, but the inducement to banks to reduce their holdings of bonds to the minimum prescribed by law is constant and of growing intensity, while there are no inducements to an increase of such holdings; consequently there is neither elasticity nor steadiness in the volume of bank notes, but only a continuous contraction of circulation that year by year more than overcomes the annual expansion due to the formation of new banks, and keeps the public mind in a state of feverish anxiety, always easily excited into alarm.

Still another effect is to render the banks very sensitive to every step made towards reducing the bonded debt of the Government.

A striking instance of this occurred lately in connection with the redemption of the 3 per cent. bonds. On August 12, 1886, the redemption of these bonds was resumed, and the last call matured July 1, 1887, after which date 3 per cent. bonds were no longer available as a basis of circulation. At the former date the national banks held \$103,351,650,

on which their outstanding circulation amounted to \$93,016,485, so that the redemption of the bonds forced the banks either to surrender circulation to this amount or to replace the 3 percents with bonds obtainable only at a premium.

The progress of this rapid redemption and its effect upon national-bank circulation are elsewhere described in detail. What is material in connection with the topic now under consideration is, that while the unprecedented contraction produced less immediate embarrassment than it might have done, yet it so disturbed public confidence, and rendered the banks so nervous, that the annual autumnal monetary stringency in New York was magnified last September into a portent of impending disaster, and came near seriously interrupting the industries of the entire country.

This effect carries with its recognition considerations as to the future, which are of national importance, because in the autumn of 1891 the 4½ per cent. bonds will become subject to call, and unless precautions are taken in advance to prevent a recurrence of the disquietude we have so lately experienced, the anxieties of this year will have been suffered in vain.

Of those bonds there are now outstanding \$230,500,000, and one of the most important problems of the immediate future is how to deal with this indebtedness. The conditions of the problem will be materially simplified if the banks are permitted and induced to gradually reduce their holdings of 4½ percents.

With a view to facilitating the healthy and natural expansion of the national-bank system, to restoring stability and some degree of elasticity to the circulation based on bonds, and to obviating a recurrence, with respect to the 4½ per cent. bonds, of the perilous experience of the last twelve months with respect to the 3 percents, it appears to be wise to reduce the minimum requirement of bonds; and I respectfully recommend that it be hereafter fixed at one-tenth of the capital of all banks of which the capital does not exceed \$250,000, and that no bank shall be required to maintain a deposit of more than \$25,000 in bonds; also that the banks be relieved of taxation upon so much of the circulation issued to them as is represented by the minimum of bonds which the law requires them to deposit.

This latter recommendation is made chiefly in the interest of the small country banks, to which every expense is a burden, and which, as a rule, deposit only the minimum of bonds.

It would seem to be quite proper to tax circulation in excess of that represented by the minimum of bonds, not for the sake of revenue only, but because such a tax tends to impart elasticity to the entire volume of circulation, and because any bank that likes may escape the tax; but both justice and policy appear to be against a tax on circulation represented by bonds of which the deposit is obligatory.

The recommendation to reduce the minimum amount of bonds to be deposited is supported by the following considerations:

1. As the law now stands, the total amount of bonds required to be deposited by the 3,049 banks in operation on October 5 is \$89,912,347, while the amount actually on deposit at that date was \$189,083,199, or \$99,170,753 more than the minimum requirement.

This excess is distributed as follows: 2,150 banks of \$150,000 capital and under, of which the minimum is \$44,962,347, hold actually \$79,485,000—an excess of \$34,522,653; 899 banks of over \$150,000 capital, of which the minimum is \$44,950,000, hold actually \$109,598,100—an excess of \$64,648,100.

If the proposed change is made the banks in operation on October 5 will stand thus: 2,552 banks with not over \$250,000 capital; minimum, \$26,400,309; actual, \$116,444,250; excess, \$90,043,941; 497 banks with over \$250,000 capital; minimum, \$12,425,000; actual, \$72,638,850; excess, \$60,213,850. Total excess, \$150,257,791.

Of course it is to be expected that some banks will be prompted by the change in the law to reduce their circulation, but the magnitude of this reduction and the rate at which it can be effected will be controlled by two influences; first, the provision of law which limits to \$3,000,000 the amount of lawful money that may be deposited in any calendar month in order to effect the withdrawal of circulation; and, secondly, the decline in the price of the bonds which must attend any sudden and large increase in the amount offered for sale. Banks will not surrender circulation except to realize the premium by selling their bonds.

2. While undoubtedly these two influences will effectually prevent any monetary disturbance, arising from the change in the law, they will not even obstruct but will materially promote such gradual changes in the bonds on deposit as will enable the banks to be practically free from $4\frac{1}{2}$ per cent. bonds by the time these mature in 1891.

The total amount of $4\frac{1}{2}$ per cent. bonds held on October 31 as security for circulation was \$69,696,100, and therefore it will only require changes to the extent of about \$17,500,000 annually to render the banks entirely independent, in four years, of any policy the Treasury may adopt as to these bonds.

If they are redeemed the national-bank circulation will be undiminished by the process of redemption; if they are refunded on terms admitting of a profit on circulation, the banks will be in a good position to buy the extended bonds.

3. One effect of a gradual shifting of deposits out of $4\frac{1}{2}$ per cent. bonds will probably be, that as the volume of circulation based on these bonds becomes reduced, a corresponding decline will be observed in the sensitiveness of the banks and of the money market to the progress of redemption of the public debt.

This is a very important consideration, because it is desirable that when the time arrives for deciding what is to be done with the $4\frac{1}{2}$ per cent. loan, there shall arise neither the apprehension of financial disturbance nor any strong popular pressure to influence the choice between payment and extension. From every point of view it is desirable that this choice should turn wholly on the position and prospects of the public finances.

4. Throughout the whole period of the existence of the national-bank circulation there never has been a time when the volume of the outstanding notes has been determined by commercial forces only; the operations of the Treasury have always exercised an abnormal and a disturbing influence, and reciprocally the state of the currency has constantly fettered the operations of the Treasury. If the proposed change in the law tends even in the least degree to release the Treasury and the currency from this unnecessary and harassing interdependence, it will be a great public gain.

5. Once free from the disturbing cause referred to, there is no reason why the volume of national-bank currency should not soon find its natural centre of oscillation; that is, the point above and below which its normal movements of increase and decline would conform to the varying needs of the commercial and other industries of the country.

From the stand-point of these industries, elasticity is more important than quantity in the currency; their interests are better subserved by

currency so elastic in volume as to respond immediately to variations in the demand for it, than by a great volume of money rigid in amount. Elasticity in the volume of the currency supplies to commercial operations what springs and a smooth road supply to transportation. In each case more can be accomplished with less wear and tear and less leakage than is possible when these conditions are wanting.

6. A reduction in the amount of bonds which the banks are required to have on deposit will prepare the way for a change in the basis of circulation, in case such change may hereafter seem expedient. As long as the law compels the smaller banks to invest more than one-fourth of their capital in bonds (counting in the premium), it may be unjust to them to permit circulation to be issued upon any other security, for only the large banks could then get the full benefit of such permission; but 10 per cent. of capital invested in bonds will not be a serious impediment even to banks of \$50,000 capital getting their fair share of any privileges as to circulation that may hereafter be determined upon.

7. It should be observed, finally, that owing to the two retarding influences already referred to, the results here suggested can be accomplished only during a considerable lapse of time, and of course, in the interval, unforeseen conditions may arise and unexpected influences may modify or reverse the tendencies now existing; but it does not seem possible that any change of conditions or of tendencies can cause embarrassment to the banks or to the public fairly chargeable to the proposed change in the law.

W. L. TRENHOLM,
Comptroller of the Currency.

THE SPEAKER OF THE HOUSE OF REPRESENTATIVES.

REPORT OF THE CHIEF OF THE BUREAU OF ENGRAVING AND PRINTING.

TREASURY DEPARTMENT,
BUREAU OF ENGRAVING AND PRINTING,
Washington, D. C., November 14, 1887.

SIR: I have the honor to submit a report on the operations of the Bureau of Engraving and Printing for the fiscal year 1887.

SECURITIES DELIVERED.

During the year there were delivered to the various Departments and Bureaus of the Government 32,652,207 sheets of securities, an increase of nearly 6,000,000 sheets over the quantity delivered in the preceding year. Of United States notes, certificates and bonds, and national-bank notes there were produced 7,184,866 sheets, representing a value of \$138,276,200; of internal-revenue stamps, 24,366,700 sheets, containing 600,428,200 stamps; of customs stamps, 314,700 sheets, containing 2,650,000 stamps; and of miscellaneous securities, 783,941 sheets. The checks, drafts, and similar documents, and a part of the internal-revenue stamps are delivered in bound books, of which 77,144 volumes were turned out during the year.

The estimated production on which the appropriation for the year was based was 29,532,550 sheets of securities. The actual production was more than 3,100,000 sheets in excess of this estimate. This arose

in part from the delivery after the beginning of the fiscal year of quantity of internal-revenue stamps printed during the preceding year and in part from the printing of more stamps and fewer national-bank notes than was anticipated. As the stamps cost less than the notes a larger quantity of the former than of the latter could be produced for a given sum. But even after making these allowances the showing is a very favorable one.

The delivery of silver certificates of the denomination of \$1, prepared under the act of August 4, 1886, began September 20, 1886; of \$2 certificates, November 27, 1886, and of \$5 certificates, February 9, 1887. At the end of October the deliveries of certificates of the three denominations had reached \$47,944,000, of which \$17,916,000 was in \$1 certificates, \$11,128,000 was in \$2 certificates, and \$18,900,000 was in \$5 certificates.

There were delivered during the year \$75,952,000 in United States notes and certificates of the denominations of \$20 and under. No notes or certificates of a higher denomination were printed, although some previously printed were delivered to the Treasurer.

EXPENDITURES.

The expenses of the Bureau for the fiscal year 1887 were:

For salaries of officers and clerks, and wages of employes other than plate printers and their assistants.....	\$341,806.00
For plate printing at piece rates, including the wages of plate printers' assistants.....	290,303.84
For materials and miscellaneous expenses, and for improved plate printing machines and royalty.....	149,599.00
	<hr/> 790,712.84
For materials used in sealing and separating notes in the office of the Treasurer of the United States.....	418.00
For salaries, office of custodian of dies, rolls, and plates.....	568.95
For pay of special witness of destruction of securities.....	130.00
For salaries of employes sealing and separating notes in the office of Treasurer of the United States.....	2,646.75
Total.....	<hr/> 794,477.80

Provision for the payment from separate appropriations of the expenditures falling under the last three heads was made by the last sundry civil appropriation act, but as the act did not pass until August 6, 1886, the expenses incurred before that day had to be paid from the appropriation made for the support of the Bureau. Moreover, the appropriation for the salaries of the persons employed in the processes of sealing and separating the notes in the Treasurer's Office was found to be insufficient, and the wages of the additional operatives needed were paid from the appropriation for compensation of employes of the Bureau. In this way the Bureau was burdened with an expense of \$3,346.70, from which it was expected that it would be relieved. The net expenditures show an increase over those of the preceding year of \$41,251.88, or only 5½ per cent., while the increase in the work turned out is 22½ per cent. Of the increased expenditure \$35,710.51, or all but \$5,541.37, was for plate printing, which, being paid for by the piece, must increase in cost as the work done increases. Although these results are subject to some qualification by reason of the facts already mentioned as to the increase in the deliveries for 1887, and of the further fact that the expenditures for 1886 contained some items of a permanent nature not properly chargeable to the year's work, enough remains to show a substantial gain in economy over the preceding year, which, in its turn,

showed a remarkable improvement in this respect upon any preceding year in the history of the Bureau.

APPROPRIATIONS AND ESTIMATES.

The appropriations for the support of the Bureau for the current year were made in exact accordance with the estimates, except that the appropriation for compensation of employes was made in a lump sum instead of prescribing the salaries and numbers of the persons to be employed as recommended in the estimates. The language of the appropriation act was, however, so changed as to authorize the payment of yearly salaries instead of daily wages to all of the employes except the plate printers and their assistants. Under this authority a schedule was prepared and approved by the Secretary of the Treasury, fixing the grades and salaries of the employes and the number to be employed in each grade in the current fiscal year. No difficulty has been found in carrying on this work under this organization, which, for the time being, places the Bureau on the same orderly footing as the legally organized Bureaus of the Department. It would be better, however, for many reasons, if the organization should be fixed by law and the estimates for 1889 accordingly specify the number and the salaries of the persons to be employed. As pointed out in previous reports, this method of appropriating would prevent any increase either of salaries or numbers beyond the limits set by law, or the expenditure of more than a proportional share of the appropriation during any part of the year, while it would establish the Bureau as one of the regular branches of the Government.

The estimates for the fiscal year 1889 show a large increase over the appropriation for 1888. This increase is due to the greatly increased estimates made by the various branches of the Government of the quantity of securities which they will require in that year. These estimates of the amount of work to be done have been adopted without modification as the basis of the estimates of the appropriation to be made. The sole function of the Bureau in the matter has been to compute the cost of executing the work which the various branches of the Government estimate that they will require. The estimates of the amount of work to be done compare as follows with the actual production in 1887 and the revised estimates on which the appropriations for the current year were based :

Class of security.	Actual production in 1887.	Estimated production in 1888.	Estimated demands in 1889.
United States notes and certificates.....	6,472,959	8,500,000	11,500,000
National-bank notes.....	711,907	1,000,000	1,000,000
Internal-revenue stamps.....	24,366,700	24,392,000	37,140,900
Miscellaneous.....	1,100,641	1,109,794	1,509,150
Total number of sheets.....	32,632,207	34,992,794	51,150,050

The estimated demand for each class of securities for 1889, with the exception of national-bank notes, is greatly in excess both of the actual production of 1887 and of the estimated production of 1888. As compared with the current year the increase in the total quantity of securities to be printed is 16,157,256 sheets, or more than 46 per cent. The increase in United States notes and certificates is 3,000,000 sheets, or more than 35 per cent., and the increase in internal-revenue stamps is

12,743,000 sheets, or more than 52 per cent. The execution of this enormous quantity of work will tax the capacity of the Bureau to the utmost. Space for the performance of the additional work can be found in the building occupied by this Bureau only by the use of labor-saving machines in all of the processes to which they are adapted. The estimates were accordingly made on the assumption that a large part of the additional printing will be done on steam plate-printing presses. Six machines of the kind known as the "Milligan" press have for a number of years been used successfully in printing certain varieties of green internal-revenue stamps. During the last fiscal year six improved machines of this pattern were introduced and applied with signal success to the printing of the backs of the one and the two dollar silver certificates. All of the one-dollar backs printed since January 21, 1887, and all of the two-dollar backs printed since April 29, 1887, have been printed on these presses in a style fully equal to that of work of the same class done on the hand-roller presses. The great increase since the beginning of the present fiscal year in the demand for internal-revenue stamps has led to the purchase, within the last two months, of six presses, with still further improvements on which to print a part of the cigar stamps. The difficulties incident to the introduction of all new machinery had to be contended with at first, but they have been overcome and a large part of the stamps of this class are now being printed on the steam-power presses. Without the aid of these presses, which are now in full and successful operation, it would have been impossible to meet the demands of the Internal Revenue Bureau for this class of work.

Although these machines are known as "steam" presses, they retain all the advantages of the hand-printing process. Only the purely mechanical parts of the work which require power without special intelligence or skill are done by machinery. The ink, plates, and materials are the same as those used on the presses operated by hand, while the final "polishing" of the plate, which is the part of the work where intelligence and skill are brought into play, is done by hand precisely as on the hand presses. To do the work of the next fiscal year it is proposed to introduce 12 more steam presses, increasing the number to 31 (including 1 press of the Homer Lee pattern), and to retain all of the hand presses now in use. In addition, the estimates provide for increasing the hand printers by 11 to take the place of those who may be absent on leave or otherwise. In this way the work of the Bureau can be done with the greatest economy of space, labor, and money. The annual saving from the use of steam presses will then be \$149,000, and the aggregate work performed by 210 printers working on the two kinds of presses will be equal to the product of the labor of at least 335 men working on hand presses alone, a number for which it would be quite impossible to find room in the building, to say nothing of the impossibility of securing the additional number of competent workmen.

The estimates for 1889, as compared with the appropriations for the current fiscal year, are:

	1888.	1889.
Salaries	\$17,450	\$18,450
Compensation of employes	352,380	410,140
Plate printing	*383,500	425,325
Materials and miscellaneous expenses	164,700	233,000
Total	918,030	1,152,915

* Including \$17,000 appropriated to provide for leaves of absence.

The increase in the appropriation asked for is $25\frac{1}{2}$ per cent., while the increase in the work to be done is more than 46 per cent. As plate-printing is paid for by the piece, its cost is governed by the work done, and is not a controllable item of expense, except so far as power-printing may be substituted for hand-printing. The quantity of materials used is also governed by the work done. The only expenditures which can be controlled are those for salaries and compensation of employes. While the estimate for plate-printing is increased $26\frac{1}{2}$ per cent., and that for materials and miscellaneous expenses $41\frac{1}{2}$ per cent., as compared with the appropriations for those purposes for 1888, the estimates for salaries and compensation of employes show an increase of only $17\frac{1}{2}$ per cent. The disparity would, of course, be much greater but for the increased proportion of the work which it is proposed to execute on the steam presses. The entire additional force asked for will be actually and necessarily employed in the various processes connected with the manufacture of securities.

A comparison of the quantity of work proposed to be done in 1889 with the quantity produced by a like expenditure in former years shows a great gain in economy. The expenditures in 1882 closely approach the estimated expenditures in 1889. In that year the net expenses of the Bureau, omitting certain items now charged to separate appropriations, were \$1,088,000. The number of sheets of securities turned out was, however, only 33,330,746, while the estimated production for 1889, with an expenditure increased less than 6 per cent., is 51,150,050 sheets, an increase of more than 53 per cent.

THE FORCE EMPLOYED.

The number of persons employed on July 1, 1886, was 839. At the date of the last report the number had run down to 817 in consequence of the slackness of work in the earlier part of the fiscal year. A subsequent increase in work caused a slight increase in the force, which at the close of the fiscal year stood at 841. Ninety-one persons left the service during the year, of whom 24 were discharged for misconduct, inefficiency, or absence without leave, 53 voluntarily resigned, 8 were transferred to other rolls, and 6 died. Thirty former employes were recalled to the service, and 63 original appointments were made. In consequence of the increased appropriation and the additional work to be done, the force has been considerably increased since the beginning of the present fiscal year. The number now employed is 892—253 less than on March 1, 1885, although the work has in the meantime greatly increased. A table in the appendix shows that the average cost of 1,000 sheets of securities has been reduced from \$34.21 in 1885 to \$24.33 in 1887, while the average number of sheets produced for each employe has run up from 21,905 to 38,872.

I have the honor to be, with great respect, your obedient servant,
EDWARD O. GRAVES,
Chief of Bureau.

Hon. CHARLES S. FAIRCHILD,
Secretary of the Treasury.

REPORT OF FIRST COMPTROLLER OF THE TREASURY.

TREASURY DEPARTMENT,
FIRST COMPTROLLER'S OFFICE,
Washington, D. C., September 17, 1887.

SIR: In compliance with the request contained in your letter of July 22, 1887, I have the honor to submit the following report of the business transacted in this office during the fiscal year ended June 30, 1887:

WARRANTS.

The following warrants were received, examined, countersigned, entered into registers, and posted into ledgers, under their several heads of appropriations, viz:

Kind of warrant.	Number.	Amount.
APPROPRIATION.		
Treasury proper	46	\$51,906,487 75
Public debt.....	1	319,430,104 40
Diplomatic and consular	6	7,282,684 40
Customs.....	12	23,818,240 00
Internal revenue	6	4,456,963 33
Interior civil.....	17	9,669,163 79
Indians.....	29	8,908,123 79
Pensions.....	11	102,292,848 29
War.....	38	49,265,921 54
Navy.....	11	30,854,719 12
	177	607,343,771 64
PAY (ACCOUNTABLE AND SETTLEMENT).		
Treasury proper.....	5,092	40,834,246 27
Public debt.....	61	319,637,875 96
Quarterly salaries.....	2,639	603,538 70
Diplomatic and consular.....	13,431	7,330,218 21
Customs.....	4,109	25,656,098 78
Internal revenue.....	3,213	4,696,904 20
Judiciary.....	4,536	3,703,888 87
Interior civil.....	2,957	7,927,174 39
Indians.....	3,658	6,492,897 94
Pensions.....	2,733	78,829,119 34
War.....	9,599	39,746,569 61
Navy.....	4,036	22,103,919 67
	55,484	537,004,487 63
COVERING (REPAY).		
War.....	1,748	1,185,584 77
Navy.....	360	6,983,869 89
Indians.....	309	238,333 25
Pensions.....	561	3,800,011 53
Miscellaneous: Customs, Internal Revenue, Public Debt, Diplomatic and Consular, Treasury, Judiciary, and Interior Civil.....	3,023	4,802,901 63
	6,001	17,010,632 58
COVERING (REVENUE).		
Miscellaneous.....	8,761	\$180,479,096 89
Customs.....	1,618	217,286,863 13
Internal revenue.....	1,187	118,823,391 23
Land.....	1,290	9,254,286 42
	12,856	525,844,177 69
Grand total.....	74,518	1,707,203,088 91

REPORT OF THE SECRETARY OF THE TREASURY. 219

The following accounts have been received from the auditing officers, revised, recorded, and the balances therein certified to the Register of the Treasury, viz :

Nature of account.	No. of accounts.	No. of vouchers.	Amounts involved in footings.
FROM THE FIRST AUDITOR.			
1. Judiciary: Accounts of United States marshals for fees and expenses; fees of witnesses; fees of jurors; support of prisoners; miscellaneous expenses United States courts; supervisors of elections; special deputy marshals; fees of district attorneys; compensation of assistant attorneys; fees of clerks of United States courts; fees of United States Commissioners; salaries of district attorneys; salaries of marshals; salaries of United States judges; salaries and expenses United States Court of Claims; excess of official emoluments; pay of judgments of Court of Claims, and miscellaneous accounts connected with the administration of the courts, or payable from an appropriation pertaining to the judicial branch of the Government.....	7,736	207,521	\$8,240,532 32
2. Public debt: Accounts of the Treasurer of the United States for United States bonds redeemed; payment of interest on the public debt by checks and by redemption of coupons; interest on Navy pension fund; currency certificates of deposit; one and two-year notes and compound-interest notes; gold certificates; refunding certificates; interest on Pacific Railroad stock; purchase of bonds for sinking fund Union Pacific Railroad and branches; destruction of gold and silver certificates; destruction of legal-tender notes, old demand notes, and fractional currency; Louisville and Portland canal stock; old funded debt of District of Columbia	722	1,657,834	349,107,445 80
3. Treasurer's general accounts: Quarterly accounts of the Treasurer of the United States for receipts and expenditures, including receipts from all sources covered into the Treasury, and all payments made therefrom.....	6	108,488	1,400,585,501 98
4. Assistant Treasurers' accounts: Accounts of the several Assistant Treasurers of the United States for salaries of employes, and incidental expenses of their offices.....	63	2,312	357,572 82
5. Mint and Assay offices: Accounts for gold, silver, and nickel coinage; for bullion; for salaries of officers and employes, and for bullion deposits, purchases, transfers, &c	358	93,930	171,125,274 03
6. Transportation of coin and securities: Accounts of express companies for transportation of coin, United States currency, national bank notes, coin certificates, registered and coupon bonds, mutilated and incomplete securities, national bank notes for redemption, stamps, stationery, &c.....	801	78,728	150,023 14
7. Congressional: Accounts for salaries and mileage of Senators and Representatives; for salaries of officers and employes, and for contingent expenses of the two houses of Congress.....	171	11,523	2,006,360 04
8. Executive: Accounts for salaries and contingent expenses of the Executive Office; accounts of the disbursing clerks of the several Executive Departments for salaries, contingent expenses, and disbursements relating to such Departments; accounts of the Department of Agriculture for salaries, contingent expenses, and authorized disbursements	1,188	194,246	15,886,804 21
9. Public printing: Accounts of the Public Printer for salaries and wages of employes of the Government Printing Office, for purchase of material, and for contingent expenses of said office	211	46,209	3,754,438 88
10. Library of Congress: Accounts of Librarian of Congress for salaries and expenditures under appropriations provided by law; accounts of the disbursing agent of Joint Library Committee of Congress for salaries and expenditures	52	709	78,156 65

Nature of account.	No. of accounts.	No. of vouchers.	Amounts involved in footings.
FROM THE FIRST AUDITOR—continued.			
11. District of Columbia: Accounts of the Commissioners of the District for disbursements under the several appropriations provided by Congress; all accounts for expenditures, one-half of which is paid from revenues of the District, and general accounts between the United States and the District of Columbia.	247	55, 613	\$16, 379, 905 78
12. Public buildings and grounds: Accounts for purchase of sites and construction of public buildings in the States and Territories; for salaries of employes payable from appropriations for public buildings; compensation of custodians and janitors, and for fuel, lights, water, &c.; for disbursements on account of the building of the State, War and Navy Departments; for repairs of the Capitol and extension of grounds; Washington Monument; Newburg Monument; care and improvement of public grounds in the District of Columbia, under the Chief Engineer of the Army; for purchase of site and construction of building for Library of Congress.	335	21, 851	4, 114, 123 29
13. Territorial: Accounts for salaries of Territorial officers and for the legislative and contingent expenses, incidental to the government of the Territories.	100	5, 083	248, 049 03
14. Inspection of steam vessels: Accounts for salaries and incidental expenses of inspectors of steam vessels.	1, 230	13, 540	331, 032 21
15. Outstanding Liabilities: Accounts for the payment of drafts and checks outstanding for three years or more, the funds against which they were drawn having been covered into the Treasury.	158	250	41, 978 27
16. Miscellaneous: Accounts for salaries, contingent expenses, and expenditures authorized by law in the Bureau of Engraving and Printing, Coast and Geodetic Survey, Bureau of Ethnology, United States Fish Commission, United States Civil Service Commission, Inter-State Commerce Commission, Pacific Railroad Commission, Government Hospital for the Insane, Columbian Institution for the Deaf and Dumb, Freedman's Hospital, Garfield Hospital, and Howard University; accounts for expenditures connected with the Industrial Expositions at New Orleans, Cincinnati, and Louisville; for payments to Providence Hospital, the Maryland Institution for the Instruction of the Blind, and the American Printing House for the Blind; for salary and expenses reporter of United States Supreme Court; for reporting decisions of United States Court of Claims; for suppressing counterfeiting and other crimes; for protection and improvement of Yellowstone National Park and Hot Springs Reservation; for stationery for Treasury Department and its various branches; for paper for the national currency; accounts with railroads for transportation of Government agents and property; interest accounts with Pacific railroads aided by issue of bonds; transfer accounts of various kinds, and accounts for sales of old material, &c., for all Departments of the Government, subordinate Bureaus, offices, and public buildings.	1, 216	42, 502	7, 444, 761 59
Total from First Auditor	14, 184	2, 540, 570	\$2, 040, 752, 504 37

REPORT OF THE SECRETARY OF THE TREASURY.

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Nature of account.	No. of accounts.	No. of vouchers.	Amounts involved in footings.
FROM FIFTH AUDITOR.			
17. Foreign intercourse : Accounts for salaries and compensation of all officers connected with the diplomatic and consular service of the United States; for fees collected by consular officers and for services to American vessels and seamen; for contingent expenses (rent, postage, stationery, &c.,) of United States legations and consulates; for loss on bills of exchange in the diplomatic and consular service; for clerk hire, expenses of prisons for American convicts, and such other incidental expenses as are allowed by Congress; accounts relating to relief and protection of American seamen in foreign countries; accounts of the United States bankers at London, for disbursements for the foreign service of the Government and for fees deposited with them by United States consular officers; accounts of the disbursing clerk of the Department of State for all disbursements made by him relating to the foreign service; accounts arising under treaties and conventions (including judgments of the Court of Alabama Claims); accounts of agents and commissioners of the United States to International Expositions and Congresses; accounts for allowances for widows and heirs of diplomatic and consular officers who die abroad, and for estates of American citizens dying abroad received and accounted for by United States consular officers	13,561	54,310	\$11,250,598 64
18. Internal revenue : (a) Accounts of collectors of internal revenue for collections. (b) Accounts of collectors acting as disbursing agents. (c) Miscellaneous internal revenue accounts including accounts with the commissioners of internal revenue for stamps; accounts for salaries, office Commissioner of Internal Revenue; for compensation of gaugers and internal revenue agents; for transportation for the Internal Revenue Service, and for the settlement of all claims arising under the internal revenue and direct-tax laws	3,110	130,542	856,399,416 82
19. Miscellaneous : Accounts of disbursing clerks for contingent expenses of the Department of State, Post-Office Department, and Patent Office; accounts relating to the Census; accounts for the preservation of collections, National Museum, and for International Exchanges, Smithsonian Institution	171	5,342	499,357 82
Total from Fifth Auditor.....	16,842	196,194	\$668,149,373 28
FROM THE COMMISSIONER OF THE GENERAL LAND OFFICE.			
20. Public lands : Accounts of surveyors-general for salaries and contingent expenses of their offices; accounts of deputy surveyors for surveying under contract; accounts of receivers of public moneys for sale of public lands; accounts of receivers acting as disbursing agents for payment of salaries, contingent expenses, expenses of depositing public moneys, and hearing fees; accounts for the refunding of purchase money for lands erroneously sold; for the refunding of deposits in excess of the amount required for the survey of private land claims; miscellaneous accounts, such as accounts with States for per centum of net proceeds of sales of the public lands within their respective boundaries, and for payments of swamp and overflowed land within their boundaries erroneously sold by the United States; accounts with railroads for transportation for the Public Land Service; accounts for stationery and printing furnished to surveyors-general, registers, and receivers	3,962	34,445	\$15,022,702 57

RECAPITULATION.

Accounts from—	No. of accounts.	No. of vouchers.	Amounts involved in footings.
First Auditor	14,184	2,540,570	\$2,640,752,564 37
Fifth Auditor	16,842	196,194	868,149,373 28
Commissioner General Land Office	3,962	34,445	15,022,702 57
Grand total.....	34,988	2,771,209	\$2,923,924,640

REQUISITIONS.

Requisitions for advances of money from the Treasury to disbursing officers, examined, recorded, and passed	3, 204
Requisitions issued by the Secretary of State in payment of drafts of United States diplomatic and consular officers drawn on that Department	1, 285
Requisitions issued by the First Comptroller in payment of drafts of United States consular officers drawn on the Treasury Department.....	821
Requisitions on the chief clerk and the stationery clerk of the Department for sundry supplies and stationery for the use of the office	272
Total	5, 582

MISCELLANEOUS WORK.

Official letters written	21, 171
Letters received, briefed, and registered	8, 484
Miscellaneous requisitions received and registered	1, 170
Powers of attorney registered and filed.....	5, 123
Official bonds and contracts registered and filed.....	2, 322
Oaths of office	248
Bonds of indemnity examined and approved.....	165
Certificates of deposit examined, indorsed, and referred	1, 098
Internal-revenue stamp-books counted and certified	30, 868
Internal-revenue tax-list receipts registered, scheduled, and referred	1, 021
Internal-revenue collectors' special allowances examined, recorded, and referred	193
Copies of reports on accounts made and transmitted	1, 077
Folios copied.....	22, 863
Accounts received and registered	34, 833
Accounts indexed	33, 719

The following comparative statement will show the increase, during the past fiscal year, over the fiscal year previous thereto, in the number of accounts examined, revised, and settled by this office, viz:

Number of accounts revised and adjusted during the fiscal year 1887.....	34, 988
Number of accounts revised and adjusted during the fiscal year 1886.....	27, 449
Increase	7, 539

The foregoing statement omits mention of a very large amount of official work entirely of a legal nature, and more especially requiring the personal consideration of the Comptroller, which does not admit of systematic classification and detailed report, and yet has occupied much time and care, such as, *e. g.*, the investigation of, and decision upon, legal points arising in the adjustment of accounts; the examination of, and decision upon, applications for the issuing of duplicate bonds and other securities lost and destroyed, and also for the transfer of the same; the examination of powers of attorney for the collection of money due to creditors of the United States; decisions upon the rights of persons claiming to be executors, administrators, or heirs of deceased claimants, to receive money due from the United States; the examination of official bonds; answering calls for information made by Congress, the Departments, and private persons; receiving and examining emolument returns, and other work of a miscellaneous character.

ASSIGNMENT OF CLAIMS UPON THE UNITED STATES.

In my last report I called attention to the above subject, as stated below, and I renew the suggestions made therein, as follow:

Section 3477 of the Revised Statutes prohibits "all transfers and assignments," and "all powers of attorney" or other authorities for receiving payment, "of any claim upon the United States," except such as are duly made and executed at the times and under the conditions and circumstances named in said section. (And at this point I will state there are certain special exceptions to this general prohibition, where assignments are expressly authorized by law in a few cases.)

Two of my predecessors, Comptrollers Whittlesey and Porter—the former in a circular of some length dated May 2, 1853—held that the term "claim" as used in this section did not apply to salary accounts and other demands of a like nature, certain,

fixed, definite, and undisputed in character; and that, therefore, assignments, and powers of attorney to receive payment, of these, were not prohibited by the statute and would be recognized. This view seems to be concurred in by Solicitor-General Phillips in an opinion given in a letter to the Secretary of the Treasury of May 28, 1883, which is approved by Attorney-General Brewster.

On the contrary, my immediate predecessor, Comptroller Lawrence, and Second Comptroller Upton, rendered opinions, both of which are contained in the printed reports of this office, construing the term "claim" as used in the above section to "embrace every claim against the United States, however arising, of whatever nature it may be, and wherever and whenever presented"—whether certain, fixed, definite, and undisputed, or uncertain, unfixed, indefinite, and disputed. Since assuming charge of the duties of this office I have followed the latter construction, for the reason that I deemed it in accordance with the principles settled by the decisions of the Supreme Court construing said section, in the cases of *United States v. Gillis* (95 U. S., 413), *Spofford v. Kirk* (97 U. S., 489), and *Goodman v. Niblack* (102 U. S., 560). See also 9 Op. Att. Gen., 190; and 16 *Id.*, 262.

It thus appears that there have been opposing opinions by the accounting officers upon the proper construction of the said section.

Recently a district judge decided that a marshal can and should pay witness fees to a third party, under a power of attorney. This decision, in my opinion, is in conflict with the above section of the Revised Statutes, and is contrary to the principles laid down in the above cited cases. If this decision be followed, it will require very much labor on the part of the accounting officers in examining the powers of attorney presented in these cases, to see whether they are correct, in addition to the examination of the accounts upon their merits. I repeat:

It seems, therefore, that much of the uncertainty and inconvenience now encountered by the accounting officers in their construction of this statute would be removed by an explanatory act of Congress defining the term "claim" as used above in such manner as to leave no doubt of its proper construction. Hence, I urge upon you the necessity of calling the attention of Congress to the matter for its appropriate action thereon.

COMPENSATION OF COMMISSIONERS OF THE CIRCUIT COURTS.

I call your attention again to the above question, and repeat what I said in my last report, as follows:

Accounts of United States district attorneys, marshals, clerks of courts, and circuit court commissioners are revised and settled in this office. The compensation of the two first-named officers is derived from the fees of their offices together with a small nominal annual salary, and of the two last-named entirely from the fees of their offices.

In the case of district attorneys, marshals, and clerks there is a limit placed by law on the amount that may be retained by them of the fees and emoluments of their offices earned during a year (Rev. Stat., 835, 841, 839); but in the case of commissioners there is no such limit under existing law.

Thus, in many instances, as shown by the records of this office, the fees earned by and allowed to commissioners during a given year amount to more than \$5,000—an annual compensation greater than that of most of the United States district judges, and very little less than that of the United States circuit judges.

I regard such compensation as very disproportionate to the value of the services of the commissioners, who are merely examining and bailing or committing magistrates; and I think some legislation by Congress limiting the amount that may be retained by them of the fees and emoluments of their offices earned during a year, and requiring the balance of the same to be turned into the Treasury of the United States, is necessary, just, and proper, and would have a salutary effect. What such limit shall be I leave to your wise discretion to suggest to Congress. This matter is here mentioned for your consideration, because I am very sure the amount of the annual compensation earned by these officers is not fully understood outside of the narrow circle of the accounting officers and the commissioners themselves.

In the examination of the accounts of said commissioners I find that many of them swell the amount of their fees by requiring all warrants issued by them to be returned before themselves, although the party against whom the warrant may be issued lives, and is arrested, in the immediate neighborhood of another commissioner. By this means the

party arrested is conveyed many miles from his home, the marshal gets large sums in mileage, and the commissioner increases his fees. The courts in many places have endeavored to correct this evil by making orders directing the commissioners to make their warrants returnable before the commissioner who may be nearest the home of the defendant, but yet they disregard the rule in very many instances. This being the case, I suggest that you call attention to this fact, and urge Congress to pass a law requiring the commissioner issuing a warrant to make the same returnable before himself or some other commissioner, and also making it obligatory upon the marshal who executes the writ to return the same before the commissioner who may live nearest to the place where the party may be arrested. Such a law would rectify the above evil, and would be of very considerable value to the Government. Since I have been in this office I have discovered, in the settlement of the accounts of district attorneys, marshals, clerks, commissioners, &c., a disposition on the part of many of these officers to charge illegal fees, and to resort to questionable practices to make a large amount of fees, and I am of opinion that the whole system should be abolished, and fair and reasonable salaries given to such officers, now paid by fees, except U. S. Commissioners, and that the fees of the latter should be limited as above indicated.

I hope that this suggestion will meet with your approbation, and that you will also recommend the same favorably to Congress.

STATUTE OF LIMITATIONS ON CLAIMS AGAINST THE GOVERNMENT.

Old claims against the Government are being constantly presented for the action thereon of this office, where the rights of the claimants originated, in several instances, twenty and thirty years ago.

As I suggested in a former report, it is well worthy of consideration whether *some fixed period after the right of the claimant accrues* should not be prescribed by statute within which a claim may be brought before the proper accounting officers for their action thereon, reserving the rights of persons under some legal disability. No general statute now exists on the subject. It is true Congress has made provisions generally limiting the time *for the payment* of claims presented and allowed against the United States to a definite period after the proper appropriation is made, or, in other words, limiting the availability of appropriations, with certain exceptions (as in act of June 20, 1874, 18 Stat., 110, sec. 5), but no such general provision has been made limiting the time for the presentation of claims for the action of the accounting officers thereon.

By reason of the great lapse of time, the difficulty of obtaining evidence upon which to base any decision in the class of claims mentioned, where all the facts transpired so long ago, may readily be seen, and may often work injustice to the Government.

I therefore renew the recommendation made in my report for 1885, that Congress should pass a law limiting the time within which claims may be presented against the Government of the United States.

It gives me pleasure to state that the officers and employes of this Bureau, in the main, have discharged their respective duties well, by reason of which the back work has been mostly disposed of, and the current business kept well in hand.

I have the honor to be, very respectfully,

M. J. DURHAM,

Hon. CHARLES S. FAIRCHILD,
Secretary of the Treasury.

Comptroller.

REPORT OF SECOND COMPTROLLER OF THE TREASURY.

TREASURY DEPARTMENT,
SECOND COMPTROLLER'S OFFICE,
Washington, D. C., October 31, 1887.

SIR: Pursuant to your request of July 22, that I should report to the Secretary of the Treasury the transactions of this Office during the past fiscal year, and the present condition of the public business intrusted to my charge, I have the honor to report that the following is a summary statement of the work performed in the Office of the Second Comptroller for the fiscal year ended June 30, 1887, in tabular form, with a comparative statement showing the work of like character in the preceding fiscal year.

TOTAL NUMBER OF ACCOUNTS, CLAIMS, AND CASES SETTLED.

From—	1887.		1886.	
	Number.	Amount.	Number.	Amount.
Second Auditor.....	28,255	\$47,265,256	28,818	\$42,249,737
Third Auditor.....	14,765	102,096,136	13,636	159,401,721
Fourth Auditor.....	2,626	18,079,971	2,975	23,637,109
Various sources.....	5,356	23,468	5,405	21,740
Grand total.....	51,002	167,464,773	50,829	225,310,310

During the fiscal year 1886, the average number of Clerks employed monthly was 79. During the fiscal year 1887, the average number employed monthly was 62; the actual number on the rolls was 67. At the close of the fiscal year 1886, there was a reduction of 12 in the clerical force. A further reduction of 8 was made at the end of the past fiscal year; so that for the present year the roll of Clerks numbers 59.

The work of the office is distributed among seven divisions known as the Army Back-Pay and Bounty Division, employing 12 clerks; Army Paymasters' Division, 6 clerks; Army Pension Division, 6 clerks; Quartermasters' Division, 8 clerks; Navy Division, 3 clerks; Indian Division, 5 clerks; Law and Miscellaneous Division, 4 clerks; with a chief in charge of each division. There are, besides, one requisition clerk, a register and a stenographer, and 5 clerks employed on the Soldiers' Home roll, making the total clerical force, including chiefs of division, at the present time, 53. There is one vacancy in the office.

The following is a detailed statement of the accounts and claims revised and settled during the year, in each division, with a general statement of their character:

ARMY BACK-PAY AND BOUNTY DIVISION.

Character of the claims.	Number.	Amount allowed.
Soldiers' pay and bounty allowed.....	8,897	\$1,033,857
Soldiers' pay and bounty disallowed.....	13,891	.....
Total.....	22,788	1,033,857

On October 1, 1887, there were on hand and unadjusted, in this division, 1,572 claims, estimated to be about twenty-five days' work of the division.

PAPERS ACCOMPANYING THE

ARMY PAYMASTERS' DIVISION.

[The item "Referred cases," &c., of previous reports, transferred to Miscellaneous Work.]

Character of the accounts.	Number.	Amount allowed.
Army Paymasters, for pay of the Army	1, 380	\$32, 124, 00
National Home for Disabled Volunteers Soldiers	35	1, 794, 00
Soldiers' Home accounts	41	224, 00
Special Army accounts	363	178, 00
Duplicate checks approved	355	25, 00
Total	2, 175	\$35, 940, 00

On October 1, 1887, there remained in this division, unadjusted, 46 Army Paymasters' accounts, 11 Soldiers' Home accounts, and 14 special accounts, in all 71 accounts, or about ten days' work of the division.

The accounts of Army Paymasters had accumulated to very large numbers in previous years, especially in 1883, 1884, and 1885. In the fiscal year ended June 30, 1883, there were adjusted 261 of this class of accounts; 246 in the fiscal year ended June 30, 1884; 100 in the fiscal year ended June 30, 1885. In the fiscal year ended June 30, 1886, there were adjusted 1,404. At the present time, these accounts are settled within thirty days from the date they are certified to the Comptroller by the Second Auditor.

ARMY PENSION DIVISION.

Character of the accounts.	Number.	Amount allowed.
Accounts of Pension Agents for Army pensions	470	\$78, 520, 00
Pension reimbursement claims allowed	2, 075, 591	112, 200, 00
Pension reimbursement claims disallowed		
Total	3, 137	78, 632, 00

On October 1, 1887, there were, awaiting adjustment, 7 Pension Agents' accounts, and 26 reimbursement claims, comprising about twenty-four days' work of the division.

This division, which was nearly three years in arrears on January 1, 1885, is now engaged in the adjustment of accounts of disbursements made within the current fiscal year.

QUARTERMASTERS' DIVISION.

Character of the accounts.	Number.	Amount allowed.
Disbursing officers of the Quartermasters' Department, for regular and incidental expenses	930	\$8, 792, 00
Disbursing officers of the Subsistence Department	722	3, 163, 90
Disbursing officers of the Engineer Department, for military surveys, fortifications, river and harbor improvements, &c.	99	7, 294, 80
Disbursing officers of the Signal Service	78	1, 300, 33
Oregon and Washington Territory war-claims	5	78
Total	1, 634	20, 562, 51

On October 1, 1887, there remained in this division, awaiting examination, 22 Engineers' accounts, 83 Quartermasters' accounts, 113 Subsistence accounts, and 7 Signal Service accounts, estimated to be equivalent to the work of the division for 40 days.

NAVY DIVISION.

Character of the accounts.	Number.	Amount allowed.
Paymasters of the Navy and at navy-yards and Navy agents.....	390	\$15,729,553
Quartermasters of the Marine Corps.....	16	699,403
Navy Pension Agents for Navy and Marine Corps.....	63	1,194,541
Miscellaneous naval accounts.....	691	133,418
Navy financial agents.....	4	94,274
Seamen and sailors' back-pay, bounty, and prize money allowed.....	1,062	237,687
Seamen and sailors' back-pay, bounty, and prize money disallowed.....	410	.....
Total.....	2,620	18,079,908

On October 1, 1887, there were, in this division, unadjusted, 26 Navy paymasters' accounts, 1 Navy pension account, 1 Marine Corps account, 19 miscellaneous claims, and 14 back-pay and bounty claims,—not exceeding 25 days' work of the division.

INDIAN DIVISION

Character of the accounts.	Number.	Amount allowed.
Indian Agent's current and contingent expenses, annuities and installments.....	860	\$2,069,355
Miscellaneous Indian claims.....	2,936	4,212,922
Indian claims disallowed.....	3	.....
Total.....	3,299	6,882,277

On October 1, 1887, there were, awaiting examination, in this division 57 Indian Agents' accounts, and 32 Indian claims, equivalent to 12 days' work of the division.

LAW AND MISCELLANEOUS DIVISION.

Character of the accounts.	Number.	Amount allowed.
Disbursing officers of the Ordnance Department, for ordnance, ordnance stores, supplies, armories and arsenals.....	80	\$3,697,437
Recruiting officers, for regular recruiting service.....	15	48,148
Disbursing officers of the Medical Department, for medical and hospital supplies and services.....	10	174,882
Miscellaneous disbursements for contingent expenses of the Army, Adjutant General's, and Commanding General's offices, artillery schools, &c.....	132	74,830
Special (37) and telegraph accounts (1) involving no expenditure.....	38	.....
Miscellaneous claims of Army Pay Department.....	60	20,492
Claims for quartermasters' stores and commissary supplies, Act July 4, 1864.....	758	153,483
Claims for lost property, Act March 3, 1849.....	1,644	211,426
War claims of States, Act 1861, &c.....	48	599,837
Claims for Army transportation.....	1,125	1,332,023
Oregon and Washington Territory war claims.....	11	1,824
General miscellaneous claims.....	1,612	774,134
Claims examined and disallowed.....	4,610	.....
Total.....	10,148	7,085,526

On October 1, 1887, there remained in this division, unexamined and unadjusted, 9 4th of July claims, 196 lost property claims, 44 Army transportation claims, 228 miscellaneous claims, 6 ordnance accounts, 1 recruiting account, 2 medical and 3 telegraph accounts, estimated not to exceed one month's work of the division.

REQUISITIONS.

During the fiscal year there were countersigned and recorded 23 requisitions amounting to \$154,188,770.47, distributed as follows:

Character.	Number.	Amount.
War Department.....	11,345	\$40,993.
Navy Department.....	4,748	29,078.
Interior Department, Pension requisitions.....	3,504	82,506.
Interior Department, Indian requisitions.....	3,981	6,670.

MISCELLANEOUS WORK OF THE OFFICE.

Bonds filed during the year.....	1
Contracts filed during the year.....	4
Settlements entered on office register.....	2
Muster and pay-rolls examined.....	1
Differences recorded.....	
Pension Agents' checks examined.....	
Rehearings of cases.....	
General office entries of reference and adjustment of cases (heretofore reported under Army Paymasters' Division).....	5

Official letters written:

By Army Back-Pay and Bounty Division.....	4
By Army Paymasters' Division.....	
By Army Pension Division.....	
By Quartermasters' Division.....	1
By Navy Division.....	
By Indian Division.....	1
By Law and Miscellaneous Division.....	

In all..... 9

Single vouchers examined:

By Army Back-Pay and Bounty Division.....	3
By Army Paymasters' Division.....	101
By Army Pension Division.....	1,637
By Quartermasters' Division.....	234
By Navy Division.....	78
By Indian Division.....	70
By Law and Miscellaneous Division.....	5

In all..... 2,167

SUITS BROUGHT.

Transcripts and briefs have been made up, examined, and forwarded to the Solicitor of the Treasury for suit in favor of the United States in 42 cases, during the year, as follows:

Army Paymasters.....	
Army Pension Agents.....	
Quartermasters.....	
Navy.....	
Indian Agents.....	
Miscellaneous.....	

In all of which cases suits have been instituted, of which 34 are pending, and a recovery has been had in 15, resulting in the payment into the Treasury of \$5,433.88. There has also been recovered and paid into the Treasury, from suits previously begun, the additional sum of \$31,763.38.

Much other important work has been done which can not well be detailed, and does not appear in the foregoing tables.

STATUTE OF LIMITATIONS.

For many years, the Accounting Officers of the Treasury have urged the enactment of a statute of limitations applicable to the prosecution of claims coming before them for adjudication.

My predecessor, Mr. Comptroller Maynard, in his annual report for the fiscal year ended June 30, 1885, says:

The work of the accounting officers is greatly impeded in consequence of the enforced examination of stale demands, * * * and as they have jurisdiction not only of claims against the Government, but also of claims existing in favor of the United States, it frequently happens that they are called upon to investigate transactions which occurred so long ago that, on account of the death of witnesses and the loss of original papers, it is difficult to reach a correct or satisfactory determination of the controversy. In some cases to which my attention has been called, over twenty years have elapsed since the occurrence took place out of which the claim arose. The enactment of a statute imposing a reasonable limitation of time within which all claims, either in favor of or against the Government, should be presented to the accounting officers, would facilitate the transaction of public business in the Department, and it is believed that the ends of justice would be promoted thereby.

Of the justice and wisdom of these views, so forcibly presented, there can be no doubt.

There should be some limit of time as against the Government in the settlement of the pay and allowances of officers in the service and employ of the Government. Legislation on this subject would seem to be essential; for, in its absence, a rule creating a limitation of time arbitrarily established by one accounting officer, might be so far altered, strengthened, or modified by his successor as to render it practically nugatory.

A statute of limitations working both ways: barring old claims against the Government, and old debts set up by the Government against claimants, would, in my opinion, bring about most beneficial results.

OFFICE LIBRARY.

Last year, the library of the office was rearranged and recatalogued. It comprises 1,456 volumes, 455 of which are in the Comptroller's room, and the remainder are distributed throughout the rooms of the seven divisions in the office.

INVENTORIES OF PUBLIC PROPERTY.

In accordance with the circulars of the Secretary promulgated September 11, 1886, and August 29, 1887, two inventories of all public property in the office were made and filed in the Secretary's Office with the Chief Clerk of the Department, the one, October 1, 1886, the other, October 5, 1887.

OFFICE APPROPRIATIONS.

The appropriations for the salaries of the officers and employes of the office for the fiscal year ended June 30, 1886, aggregated \$118,100, of which \$3,918 remained unexpended at the close of the year. The appropriations for the fiscal year ended June 30, 1887, were \$105,820, of which there remained, at the close of the year, an unexpended balance of \$2,333.67. The appropriations for the same purpose, for the current fiscal year (1888) are \$95,020. The reductions in the appropriations since June 30, 1886, added to the amounts remaining unexpended at the close of the fiscal years 1886 and 1887, aggregate \$29,331.67.

Very respectfully,

SIGOURNEY BUTLER,
Comptroller.

Hon. CHARLES S. FAIRCHILD,
Secretary of the Treasury.

REPORT OF THE COMMISSIONER OF CUSTOMS.

TREASURY DEPARTMENT,
OFFICE OF COMMISSIONER OF CUSTOMS.*Washington, D. C., October 17, 1887.*

SIR: I have the honor to submit herewith for your information, a statement of the business of this office for the fiscal year ending June 30, 1887:

Auditor's statements on hand July 1, 1886.....	164	
Auditor's statements received	6,494	
		6,658
Auditor's statements examined and passed.....	6,443	
Auditor's statements returned to Auditor	32	
		6,475
Auditor's statements on hand June 30, 1887.....		163
Accounts on hand July 1, 1886.....	288	
Accounts received from First Auditor	17,316	
		17,603
Accounts adjusted	17,223	
Accounts returned to Auditor.....	35	
		17,258
Accounts on hand June 30, 1887.....		345
Estimates received and examined.....		2,239
Requisitions issued.....		2,239
Amount involved in requisitions.....	\$24,381,198.71	
Letters received		29,960
Letters written		12,438
Letters recorded		10,590
Letters referred.....		2,548
Stubs of receipts for duties and fees returned by collectors.....		191,589
Stubs examined and summarized		187,907
Tonnage stubs received and entered		14,478
Tonnage stubs examined		14,487
Auditor's reports registered		6,486
Auditor's reports recorded.....		6,574
Public fund statements referred.....		6,572
Appointments registered		4,635
Oaths examined and registered		2,540
Official bonds examined and approved		77
Commissions transmitted		81
Money returns examined		1,327
Papers filed.....		5,191
Average number of clerks employed		27

There was paid into the Treasury from sources, the accounts relating to which are settled in this office:

Customs (duties).....	\$216,723,715.31
Customs (tonnage)	562,191.45
Customs (unclaimed merchandise).....	986.37
Storage, fees, etc	744,429.76
Immigrant fund	258,402.50
Fines, penalties, and forfeitures.....	160,205.41
Emolument fees.....	144,817.53
Steamboat fees	6,377.20
Relief of sick and disabled seamen.....	3,335.83
Mileage of examiners	3,014.21
Shipping fees	1,801.00
Rent of public buildings	915.49
Deceased passengers	710.00
Marine-hospital tax.....	224.21

REPORT OF THE SECRETARY OF THE TREASURY. 231

Interest on debts due	\$59.59
Court fees paid to Government employes.....	42.25
Proceeds of Government property	8,163.43
Total.....	218,619,391.54

And there was paid out of the Treasury on the following accounts :

Expenses of collecting the revenue from customs.....	\$6,870,804.29
Debentures	7,426,952.74
Excess of deposits	4,656,717.81
Construction and maintenance of lights.....	2,130,538.53
Construction and maintenance of public buildings.....	191,092.61
Construction and maintenance of revenue cutters.....	854,635.13
Life-Saving Service	877,373.23
Marine-Hospital Service.....	395,421.59
Expenses of regulating immigration.....	215,081.95
Salaries, shipping service	55,445.76
Compensation in lieu of moieties	29,800.29
Relief certain light-house employes, Twelfth district	18,463.65
Protection of sea-otter hunting grounds	17,500.00
Services to American vessels.....	16,208.75
Salaries and traveling expenses of agents at seal fisheries, Alaska ..	16,174.13
Draping public buildings.....	9,459.65
Quarantine stations for neat cattle.....	8,884.18
Reimbursement for losses sustained by burning light-house tender <i>Lily</i>	2,054.00
Refund to Baltimore Storage and Lighterage Company.....	1,261.30
Unclaimed merchandise	849.42
Payment of judgment to C. Gondolfo.....	551.63
Refunding penalties or charges erroneously exacted.....	421.95
Refunding moneys erroneously received.....	377.34
Extra pay to officers and men who served in the Mexican war, Re- venue Marine	295.37
Payment of judgment, W. H. Sears.....	229.38
Payment of judgment, W. G. Holden	95.00
Payment of judgment, J. M. Currie	12.50
	23,796,762.18
Deduct repayments:	
Vessels for revenue service	\$696.20
Detection and prevention of frauds.....	132.86
	829.06
Total	23,795,933.12

DIVISIONS.

Appropriation having been made for only two chiefs of division in this office, it was deemed advisable to make a readjustment of the work, so as to conform to the law. Accordingly the temporary divisions, viz, the Warehouse Bond Division, formerly in charge of B. F. Cutter, clerk; the Stub Division, under Amos J. Gunning, clerk, and the Disbursing Division, under N. H. Thompson, clerk, were discontinued, and the work consolidated in two divisions under the superintendence of the regular chiefs of division. As now constituted those divisions are:

- (1) The Customs Division, of which Mr. Edmund Jones is chief.
- (2) Division of Appointments, Refunds, Bonds, and Records, of which Mr. Charles H. Playter is chief.

Under these two chiefs of division, Mr. Jones and Mr. Playter, to whom the clerks report, and under the further supervision of Mr. H. A. Lockwood, deputy commissioner, the clerical business of the office has been performed during the year with commendable promptness and accuracy.

OLD WAREHOUSE AND BOND ACCOUNT.

The system of keeping the warehouse and bond accounts of the New York custom-house was begun January 1, 1868, the balance being taken from the bonds on file without entering the proper credits which were not then discovered, not having been indorsed on the bonds, and no book accounts of them having been kept in the custom-house. These credits, difficult of access, were afterwards ascertained from other entries by repeated and careful examinations.

Under authority from the honorable Secretary of the Treasury I directed the credits to be entered on the old warehouse account, as ascertained from the former investigations made in the New York custom-house, so that the present balance on that account is \$29,014.78. It is not certain that this balance is correct, but it is not probable that any more credits will be discovered against it.

The system under which the old accounts were kept was not a safe one. In addition to its unreliability, arising from the wrong balance with which it was begun in 1868, there were other defects in it which led to a change. On the 1st of July, 1881, there was a new system adopted, and since then, by separating the new from the old accounts, there has been no difficulty in getting the correct balances. But it has been deemed proper, whilst the evidence existed in this office, to correct, as far as possible, the balances of the old accounts.

On the old transportation bond account there was a balance of \$86,171.11, and on the exportation bond account a balance of \$295,842.87, as shown at the close of May, 1885. In letter from the office of the collector of customs of New York, dated September 6, 1883, certified by the naval officer, Charles K. Graham, it was stated that the transportation bonds from 1868 had been examined "and found to be all canceled." It was also stated that the export bonds (with the exception of an inclosed list of missing bonds in 1870 and 1873) had been "carefully examined for the same time, and found to be canceled or delivered to the district attorney." These statements were verified by an authorized investigation made from this office. Inasmuch as all the bonds were canceled except the missing bonds in 1870 and 1873, and as there are no bonds known to represent the balances on the old transportation and exportation accounts, and as these balances from January, 1868, to June 30, 1881, were not reliable, and could not be made so, directions were given to enter the credits to close these old accounts.

The only balance remaining of the old warehouse and bond account of the New York custom-house is, therefore, that of the old warehouse account, amounting to \$29,014.78, which balance is not reliable, as before stated, owing to the defective system under which the accounts were kept.

CANCELLATION OF EXPORT BONDS.

The bonds given for exportation of merchandise imported and warehoused are credited on the warehouse-bond account. The exportation-bond account balance shows the amount of these bonds outstanding. Sections 3044 to 3047, Revised Statutes, provide for the cancellation of such bonds, and make it the duty of the exporter to procure the proper evidence specified for the purpose. There seems to have been no trouble

in procuring the cancellation of these bonds except at the port of New York.

The indifference of exporters and sureties in this matter at that port appears to arise from the fact that no suits are brought on these bonds, and from a belief that there has been a decision of the United States district court for the northern district of New York (unreported) that there can be no recovery on such a bond unless special damage be shown; i. e., unless it be shown that the merchandise has been landed within the limits of the United States.

Many of these export bonds have been delivered by the collector of New York to the United States district attorney for the southern district of New York. That officer is of opinion that no suits should be brought on these bonds unless special damage can be shown, even if without that judgment could be obtained for nominal damages and costs. His opinion seems to be that the bringing of such suits merely for judgment in a nominal amount would savor of vexation and oppression and be justly the subject of criticism.

It is evident that if no suits are brought to compel the cancellation of the bonds the exportation account will be of no value, save as a list of bonds showing the clearance of imported merchandise exported to foreign ports.

The provision of law for proof of cancellation seems to have been made as a security against smuggling, and for the further reason, perhaps, that the bonds might not stand open in the accounts longer than necessary. That provision cannot be enforced without some penalty for its breach. The small penalty of the costs of suit would of itself, I think, be sufficient to compel a compliance with the statute. It would be necessary to bring only a few suits to establish the law. The knowledge on the part of the exporters that the courts had decided as to their liability on such bonds and that suits could be legally brought which would at least mulct them in the costs would of itself be sufficient to enforce compliance. I would therefore recommend that at least one trial suit of the kind be brought in the United States district court of the southern district of New York to establish the law. If judgment can not be had for nominal damages and costs in such suit without proof of actual damage, it ought to be known for the information of Congress, so that, if necessary, a further remedy might be provided. But if judgment be obtained, I apprehend that there will be no further serious difficulty in the cancellation of the exportation bonds.

A question may arise upon this as to the policy of the law in requiring proof of cancellation. Upon this it is not within my province to express an opinion. The reasons for that policy may now be modified by the changes, which have occurred since the act was passed, in the carrying trade, and in the more active agencies of the Revenue-Marine Service, and Special Customs Service, to prevent smuggling.

It may therefore be well to consider, in case the present law for proof of cancellation of export bonds cannot be enforced, whether a statute of limitations, as to such bonds, might not be passed, requiring at the expiration, say of three years from the date of the bond, that the cancellation of it should be made by the Collector of Customs in the absence of any evidence of special damage to the Government.

STUBS.

In the accounts of collectors of customs adjusted in this office the advances from the Treasury and disbursements are checked with accuracy.

The receipts from customs are as entered by the collectors in the accounts, and the amounts thereof deposited by them with the public depositaries. To verify the entries made by the collectors and the deposits from customs receipts, an order was made on the 11th of October 1877, (Department Circular No. 126), providing for blank stub receipt-books for all the ports except New York, Philadelphia, Boston, Baltimore, New Orleans, and San Francisco. In all cases of payment of money for duties or otherwise, the collectors were required by this order to give receipts and to enter the amount on the corresponding stub in the book. These stubs, numbered consecutively, mentioning the duties, and verified by the signatures of the parties who make the payments, have been so systematized in practice as to form a very useful if not indispensable, adjunct in the settlement of the accounts. They have served, on many occasions in this office, to correct errors and mis-entries, mostly inadvertently made. Complaints were made from one or two offices that the persons paying duties would not always take receipts or countersign the stubs, and, therefore, that it was an unnecessary trouble to keep the stub-book. In such cases the collectors were instructed to return the receipts in the stub-books, properly filled out with the corresponding memorandum on the stub, and brief explanations for the non-delivery of the receipts to the proper parties.

The practice of the stub-book system has been so satisfactory, and has been evidently so beneficial in verifying the accounts, that no entering wedge should be allowed towards its abolition.

The larger ports were exempted from the operation of the stub-book order, mainly for the reason, as I understand, that there are naval officers at those ports whose duties, among others, are to check the entries of receipts, and that the performance by them of this duty insures accuracy in the accounts. I presume this is true. But still I am not clear that the stub-book system could not be advantageously applied to the larger ports as well as to the smaller ones. It might aid the naval officers in verifying their certificates. There is no reason to apprehend at present that the revenues are not faithfully collected and accounted for at the larger ports. But the experience of this office, formerly more than of late years, in the use of the stub-books, has shown that they serve a very good purpose in the correction of the accounts, and commends the system to our continued favor.

UNCLAIMED GOODS.

Returns of collectors of customs, as required by Department Circular No. 148 (1885), of unclaimed goods under sections 2973, 2974, 2976, Revised Statutes, have heretofore been forwarded promptly, except for the port of New York.

It appears that for some years in the past unclaimed goods have been allowed to accumulate in the warehouses at New York, and have not been sold at the expiration of a year after landing as required by law. The result has been to overcrowd the warehouses with such merchandise, to render more difficult the finding and cataloguing of it, and when eventually sold at auction to bring less than the duties and costs of storage. The present collector at New York is making earnest endeavor

ers to clear up this business. In doing so he is evidently performing work which should have been done by his predecessors, and which requires more force than for current business. It will take some time to get these returns and accounts into regular shape and running order. They are being gradually forwarded to this office, and require additional labor to their adjustment from the fact that these returns have not entered into the ordinary work for some years.

RECEIPTS BY ATTORNEYS.

The decisions of the courts and comptrollers and opinions of attorneys-general leave it still perhaps an open question whether payments may be legally made by disbursing officers on contracts to agents or attorneys of the contracting parties. It has been settled that if such payment be made to an agent in good faith under a genuine power of attorney, it will be conclusive against the principal so far as the Government is concerned.

But although this be so, notwithstanding the wording of section 3477, Revised Statutes, yet the policy of such departure from the letter of the statute in the administration of the accounting offices may well be doubted.

The disbursing officer becomes responsible for the authenticity of the power of attorney, and it is by no means clear that the accounting officers do not share in that responsibility to a greater extent, in the absence of a specific provision of law, for the authentication of such powers to be used in evidence.

There have been admitted exceptions in practice to the literal operation of section 3477, Revised Statutes. It appears advisable, however, to adhere to the statute as closely as possible, and when powers of attorney are admitted, that it shall be from necessity, to prevent a failure of justice, or unnecessary delay in the payments. When used, they should be well authenticated, and specify the claim with particularity. The original power should accompany the vouchers to be filed with the papers. As no provision of law is made for recording them, search has to be made for them when they are questioned. In the present crowded condition of the files of the Department, it is well to prevent the accumulation of unnecessary papers, and to simplify as much as can be the workings of the offices. Disbursing officers must have some regard undoubtedly to the business methods of the people; but, in the common affairs of life, payments on important contracts, other than land contracts, are not usually made without the receipts of the principal parties. The reason of this is, probably, because of the trouble in the preservation of the power, and in the proof of it should the payment be disputed. In the ordinary off-hand transactions of life, payments to agents are of constant occurrence, often without receipts, and the proof of them seldom required, or, if required, easily made. But even as to them, the systematic operations of the Treasury Department require more care, as all accounts for disbursements must contain in themselves the authority for, and proper written evidence of, the payments to the parties entitled.

Accordingly the practice is, in this office, to require of the disbursing officers that the checks for payment shall be drawn to the orders of the principals, or the receipts be signed by the principals; and, where any exception is made, that it shall appear by reason of absence beyond

seas, sickness, or the like, that the principal party can only receive through an authorized agent.

EXAMINATION OF LIGHT-HOUSE ACCOUNTS.

Owing to embezzlements committed some years ago by a clerk employed in the Light-House Engineer's office at San Francisco, the Commissioner of Customs, in a letter to the Secretary of the Treasury, dated January 30, 1882, recommended that the subordinates who have access to the public funds should be required to give bonds, and that periodical examinations of the disbursing offices should be made by persons not connected with the Light-House Service. The chairman of the Light-House Board, in a communication to the Secretary of the Treasury, dated February 3, 1882, stated that the Board most heartily concurred in the latter proposition, "provided that the examination be made by competent persons duly authorized in each case," and, as to the former proposition, *i. e.*, taking of bonds from subordinates, that it would be communicated to the disbursing officers by the Board.

This communication of the Light-House Board was referred by indorsement, November 1, 1883, to the supervising special agent of the Department, "with the recommendation that if the work of examination indicated is such as can properly be discharged by the special agents' force, instructions be given to cause it to be done." By further indorsement of November 28, 1883, the communication was returned to the chief of the Revenue Marine Division with the following remarks by the supervising special agent:

In view of the provisions of section 2649, Revised Statutes, defining the duties of special agents of the customs, it would seem that to impose as a general duty such examinations as are herein referred to would scarcely be within the intent of the law. I see no objection, however, to the assignment by the Secretary of the Treasury of an agent to examine the accounts of light-house officers in special cases, provided the Light-House Board so requests.

On December 4, 1883, the Secretary of the Treasury, by letter to the chairman of the Light-House Board, in inclosing the letter of the Board of February 3, 1882, stated the indorsement which had been made thereon by the supervising special agent, for the information of the Board, and requested such further recommendation as the Board might deem proper. There the correspondence seems to have rested.

I called attention briefly to this subject in my annual report of 1885.

Upon examination of the Revised Statutes, I do not find any power in them to employ special agents for the examination of the Light-House Service.

Section 2649, Revised Statutes, authorizes the appointment of special agents, "for the purpose of making the examinations of the books, papers, and accounts of collectors and other officers of the customs, and to be employed generally under the direction of the Secretary [of the Treasury] in the prevention and detection of frauds on the customs revenue."

It is true that the disbursements made by the officers of the Light-House Board were formerly made by the collectors of customs, but as they had no direct connection with the customs revenue, these disbursements were transferred to the Light-House Board.

The disbursing officers of the Light-House Board, being selected from the engineer officers of the Army and from the officers of the Navy, and receiving only their Army or Navy pay for their services, are exempted by executive order from giving bonds before receiving advances

of the public moneys. Their character as officers and amenability to discipline in the military or naval service are considered, and have been, generally, sufficient guarantee for the faithful disbursement of the public funds entrusted to them. Besides, it would be a hardship to require an officer, without additional compensation, to go beyond the line of his service to procure sureties. But the fact that bonds are not required from the officers is, I think, a reason why careful periodical examinations should be made of their offices and accounts by agents not connected with the Light-House Service.

Section 3649, Revised Statutes, authorizes the Secretary of the Treasury "to cause examinations to be made of the books, accounts, and money on hand of the several depositories."

I think it would be advisable to ask for similar legislation as to the accounts of the disbursing agents of the Light-House Board.

MAINTAINING AND REPAIRING LIGHT-HOUSE TENDERS.

In the adjustment of accounts, questions arise as to the proper distribution of the expenses of maintaining and repairing the light-house tenders.

A general clause in the appropriation act of March 3, 1879 (20 Statutes, 379), reads as follows :

And the expenses of maintaining the vessels of the Light-House Establishment may be paid from any surplus of the appropriation for the works, general or special, on which the respective vessels are, for the time being, employed, and the cost of repairs to such vessels may be paid from the appropriation under which they respectively were employed when they were injured or became deteriorated to such an extent as to render repairs necessary ; or if such appropriation be exhausted, then from the appropriation under which they are respectively to be next employed.

This clause of the act of 1879 has been held here to relate exclusively to the light-house tenders, and not to include the light-ships which are stationary.

As the expenses of maintaining and repairing the tenders are large, and form a distinct class, it is not readily perceived why there should not be a specific annual appropriation for them. The application of balances of different appropriations to this object seems to be against the general purpose, which is to pay for work and supplies from the appropriations for the current year in which the liabilities are incurred. Under the act of 1879, the expenses of the tenders can be placed to different appropriations according to the views of the light-house management, and the proper distribution of them cannot be verified in this office with reasonable certainty. It is, I think, desirable that there should be a change in this appropriation so as to conform to the general scope of the appropriation acts. The Light-House Board would doubtless be consulted before making such change. It is possible that the Board prefers the appropriation as it is at present, and may have reasons therefor which are not apparent in this office.

OFFICIAL BONDS.

There has been no general adjustment of the penalties of the bonds of customs officers since 1853. When new bonds are required from time to time, by reason of new appointments, death, or insolvency of the sureties, or other causes, changes in the penalties are recommended when necessary to make them adequate to the responsibility of the office, having due regard to precedents and the reasonable facility of

procuring sureties. It is possible that further changes in the penalties of these bonds might be recommended in order to conduce to a more uniform rule of gradation.

I inclose herewith statements of transactions in bonded goods, as shown by the adjusted accounts; of property brought into the United States for temporary purposes under section 2507, Revised Statutes, and in relation to unclaimed merchandise entered and sold.

I am, very respectfully, your obedient servant,

JOHN S. McCALMONT,
Commissioner of Customs.

Hon. CHARLES S. FAIRCHILD,
Secretary of the Treasury.

REPORT OF THE FIRST AUDITOR OF THE TREASURY.

TREASURY DEPARTMENT,
FIRST AUDITOR'S OFFICE,
Washington, D. C., October 31, 1887.

SIR: I have the honor to submit herewith the annual report of this Bureau for the fiscal year ending June 30, 1887.

Attention is called to the following exhibits of the business transacted in this office during the year:

Accounts adjusted.	Number of accounts.	Amount.
RECEIPTS.		
Duties on merchandise and tonnage	1,384	\$199,345,992.00
Steam-boat fees	470	51,863.12
Fines, penalties, and forfeitures	657	183,198.30
Marine-hospital money collected	168	7,447.14
Immigration fees	174	221,404.00
Moneys received on account of deceased passengers	40	791.00
Moneys received from sales of old material, etc	311	201,017.21
Shipping fees	118	23,044.39
Miscellaneous receipts	17	1,072,650.16
Moneys retained from Pacific railroad companies for accrued interest on bonds	0	281,714.07
Treasurer of the United States for moneys received	0	728,800,000.00
Mints and assay offices	64	118,617,001.00
Water rents, Hot Springs, Ark.	3	3,523.75
Accounts of the collector of taxes for the District of Columbia for taxes collected by him and deposited	72	4,483,004.05
Total receipts	3,385	1,053,290,014.00
DISBURSEMENTS.		
LEGISLATIVE.		
<i>United States Senate.</i>		
Compensation of President of the Senate	12	3,000.00
Salaries and mileage of Senators	3	421,033.52
Salaries officers and employés	5	354,674.83
Contingent expenses:		
Stationery and newspapers	5	13,208.48
Horses and wagons	7	4,166.81
Fuel for heating apparatus	0	0,578.03
Furniture and repairs	8	8,550.23
Folding documents	0	4,000.00
Materials for folding	0	5,500.50
Packing boxes	3	1,570.37
Expenses of special and select committees	8	21,004.68
Miscellaneous items	0	37,854.78
Salaries of Capitol police	2	18,297.50

Accounts adjusted.	Number of accounts.	Amount.
DISBURSEMENTS—Continued.		
LEGISLATIVE—continued.		
<i>United States Senate—Continued.</i>		
Reporting proceedings and debates.....	12	\$25,000.00
Compiling Congressional Directory	2	1,200.00
Postage.....	3	200.00
Capitol police contingent fund.....	1	40.75
Payment to special policemen.....	3	171.00
Payment to Beverly Hudnell, laborer.....	1	145.00
Payment to C. B. Heade for Senate manual.....	1	1,000.00
Payment to W. P. Canaday for hire of horse and wagon.....	1	921.20
Payment to Christopher Phillips.....	1	41.00
Payment to the widow of Hon. John F. Miller.....	1	4,931.50
Payment to the widow of Hon. Thomas A. Hendricks.....	1	8,760.00
<i>House of Representatives.</i>		
Salaries and mileage of Members and Delegates.....	14	1,851,348.21
Salaries officers and employes.....	78	417,458.02
Contingent expenses:		
Stationery and newspapers.....	9	72,837.74
Fuel for heating apparatus.....	5	7,425.37
Furniture and repairs.....	6	4,624.58
Material for folding.....	6	20,480.47
Packing boxes.....	2	2,087.00
Cartage.....	1	447.50
Miscellaneous items.....	8	38,235.77
Salaries of Capitol police.....	2	18,800.00
Postage.....	3	800.00
Relief of various persons.....	15	27,852.98
<i>Office of Public Printer.</i>		
Salaries.....	11	18,834.65
Contingent expenses.....	15	2,638.94
Removal and storage of certain materials.....	15	9,953.28
Public printing and binding.....	170	2,906,825.30
Printing annual report of Commissioner of Agriculture.....	48	180,632.77
Publication of the Tenth Census reports.....	23	75,588.04
Printing annual report, Bureau of Animal Industry.....	22	18,621.08
Printing annual reports of the Commissioner of Labor.....	18	16,554.28
Printing bulletin, Bureau of Ethnology.....	5	1,448.56
Editing digest of International Laws.....	1	7,500.00
Protecting Printing Office from fire.....	1	287.39
<i>Library of Congress.</i>		
Salaries.....	8	37,967.45
Increase of Library.....	11	9,914.90
Works of art for the Capitol.....	6	12,729.75
Contingent expenses.....	10	1,645.41
Additional accommodations.....	1	2.90
Purchase of painting "Farming in Dakota".....	1	3,000.00
Publishing historical documents relating to French discoveries.....	1	1,200.50
<i>Botanic Garden.</i>		
Salaries.....	8	11,608.82
Improving Botanic Garden.....	7	5,728.38
Improving buildings.....	5	5,513.91
<i>Court of Claims.</i>		
Salaries judges, etc.....	119	31,044.00
Reporting decisions.....	1	1,000.00
Contingent expenses.....	7	3,906.01
Payment of judgments.....	405	500,817.89
<i>Legislative, miscellaneous.</i>		
Payment for contesting seats in Congress.....	10	14,351.75
Compiling reports of committees of Congress.....	7	7,750.00
Conveying votes of electors for President and Vice-President.....	1	49.00
Services and expenses joint commission on Signal Service and Surveys.....	2	1,400.50
EXECUTIVE.		
<i>Office of the President.</i>		
Salaries executive office.....	5	30,819.38
Contingent expenses.....	4	2,980.27
Preventing the spread of epidemic diseases.....	30	46,260.68

Accounts adjusted.	Number of accounts.	Amount.
DISBURSEMENTS—Continued.		
EXECUTIVE—continued.		
<i>Civil Service Commission.</i>		
Salaries	143	\$20,710.08
Traveling expenses	11	4,754.96
Contingent expenses	17	7,146.61
<i>Department of State.</i>		
Salaries	5	116,512.24
Contingent expenses	9	7,001.28
<i>Treasury Department.</i>		
Salaries:		
Office of Secretary	8	486,391.59
Office of Supervising Architect	6	16,474.14
Office of First Comptroller	5	83,350.16
Office of Second Comptroller	8	108,545.97
Office of Commissioner of Customs	5	48,242.15
Office of First Auditor	6	87,309.23
Office of Second Auditor	14	275,960.26
Office of Third Auditor	5	190,321.82
Office of Fourth Auditor	5	68,208.19
Office of Fifth Auditor	5	46,161.00
Office of Sixth Auditor	8	496,128.56
Office of Treasurer United States	6	263,264.53
Office of Treasurer (national currency, reimbursable, permanent)	5	73,316.52
Office of Registrar	5	141,539.06
Office of Comptroller of the Currency	5	96,776.10
Examinations of national banks and bank plates	2	450.00
Salaries:		
Office of Comptroller of Currency (national currency, reimbursable, permanent)	5	14,191.85
Office of Life-Saving Service	6	37,698.90
Office of Light-House Board	5	85,742.84
Bureau of Navigation, Treasury Department	4	26,637.59
Bureau of Statistics	5	45,727.30
Collecting statistics relating to commerce	14	5,034.00
Salaries:		
Secret Service Division	6	12,812.64
Office of Supervising Surgeon-General, Marine-Hospital Service	6	26,006.94
Office of Supervising Inspector-General, Steamboat-Inspection Service	7	10,128.40
Office of Standard Weights and Measures	3	3,000.75
Contingent expenses, office of Standard Weights and Measures	4	160.07
Salaries, Steamboat-Inspection Service (permanent)	5	232,766.78
Contingent expenses, Steamboat-Inspection Service (permanent)	1,134	36,427.59
Salaries and expenses of special inspectors foreign steam vessels (permanent)	112	22,662.62
<i>Treasury—Miscellaneous.</i>		
Contingent expenses, Treasury Department:		
Stationery	304	77,641.96
Binding, newspapers, etc	12	2,215.92
Investigation of accounts and traveling expenses	6	177.99
Freight, telegrams, etc	7	3,440.97
Rent	6	7,675.06
Horses, wagons, etc	8	2,590.56
Ice	5	1,979.87
File holders and cases	8	11,678.79
Fuel, etc	6	9,256.91
Gas, etc	7	15,089.11
Carpets and repairs	25	7,142.29
Furniture, etc	9	8,476.16
Miscellaneous items	11	9,316.35
Postage to Postal Union countries	4	2,000.00
Library, Treasury Department	3	396.33
Expenses of national currency	15	18,280.32
Contingent expenses, national currency, Treasurer's Office, reimbursable (permanent)	68	58,520.75
Sealing and separating United States securities	9	440.19
Distinctive paper for United States securities	15	79,240.72
Transportation of silver coin	134	43,016.54
Storage of silver: transportation	3	3.75
Recoinage of gold and silver coin	6	15,000.00
Pay of assistant custodians and janitors	12	892,651.83

REPORT OF THE SECRETARY OF THE TREASURY.

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Accounts adjusted.	Number of accounts.	Amount.
DISBURSEMENTS—Continued.		
EXECUTIVE—continued.		
<i>Treasury—Miscellaneous—Continued.</i>		
Fuel, lights, and water for public buildings.....	109	\$347,034.10
Furniture and repairs of same, public buildings.....	63	102,043.40
Heating apparatus for public buildings.....	81	54,058.03
Draping public buildings.....	4	6,788.23
Vaults, safes, and locks for public buildings.....	7	20,387.61
Pans for public buildings.....	13	2,629.91
Salaries and traveling expenses of agents at seal fisheries.....	32	18,189.18
Protection of sea-otter hunting grounds and seal fisheries.....	1	17,500.00
Compensation in lieu of moiety.....	91	23,008.46
Lands and other properties of the United States.....	10	798.14
Suppressing counterfeiting and other crimes.....	21	66,228.22
North American Ethnology, Smithsonian Institution.....	11	36,555.12
Propagation of food-fishes.....	34	208,900.75
Sailing vessels for food-fishes.....	5	5,051.54
Steam vessels for food-fishes.....	5	616.51
Fish hatchery, Duluth, Minn.....	2	334.05
Mouument to commemorate the battle of Bennington.....	1	40,000.00
Fish commission buildings, Wood's Holl, Mass.....	3	2,358.09
Marine Hospital Service.....	196	658,077.98
Salaries and expenses National Board of Health.....	2	731.91
World's Industrial Exposition, New Orleans.....	24	11,536.61
Final aid to the World's Industrial and Cotton Centennial Exposition.....	134	8,704.67
Expenses incurred under act relating to Chinese.....	18	1,388.70
Outstanding liabilities (permanent).....	220	40,690.56
Expenses of Smithsonian Institution (permanent).....	2	42,180.00
To promote the education of the blind (permanent).....	1	10,000.00
Extra pay to officers and men engaged in war with Mexico, revenue marine (permanent).....	5	343.37
Sinking fund Pacific railroads (permanent).....	14	4,540,065.42
Awards for services and expenses in connection with the illness and death of President Garfield.....	1	2,500.00
Private-relief accounts.....	10	50,542.32
Industrial Exposition, Cincinnati, Ohio.....	22	26.46
Customs (permanent).		
Expenses of collecting the revenue from customs.....	2,311	7,873,652.70
Detection and prevention of frauds upon the customs revenue.....	9	11,468.41
Excess of deposits.....	573	4,715,551.29
Debitures and drawbacks.....	296	8,293,437.60
Official emoluments.....	1,407	6,703,641.33
Expenses of immigration.....	97	192,724.22
Duties, etc., refunded.....	1,429	20,655.24
Judgments satisfied.....	1,219	587,450.78
Additional pay to inspectors of customs.....	100	92,998.58
Miscellaneous accounts.....	40	4,781.54
Salaries of shipping service.....	244	53,983.80
Services to American vessels.....	728	16,988.55
PUBLIC DEBT (PERMANENT).		
Interest.		
unded loan of 1907.....	150	25,248,996.50
unded loan of 1891.....	141	10,688,808.89
loan of July and August, 1861.....	1	.67
unded loan of 1881.....	14	265.22
loan of 1863.....	3	21.87
three per cent. loan of 1882.....	101	8,152,739.33
entral Pacific stock.....	60	2,318,490.80
ansas Pacific stock.....		565,590.00
nion Pacific stock.....		2,447,536.08
entral Branch Union Pacific stock.....		144,060.00
estern Pacific stock.....		177,380.40
oux Pacific stock.....	1	146,518.80
avy pension fund.....		420,000.00
orty-sixth installment of Spanish indemnity.....	2	28,584.17
claimed interest on old loans.....	7	880.71
in coupons.....	120	7,090,351.20
Redemption called bonds.		
region war debt.....	1	166.00
loan of July and August, 1861.....	1	35,088.54
ive-twenties of 1862.....	1	1,868.48

Accounts adjusted.	Number of accounts.	Amount.
DISBURSEMENTS—Continued.		
PUBLIC DEBT (PERMANENT)—continued.		
<i>Redemption called bonds—Continued.</i>		
Loan of 1863	1	
Ten-forties of 1864	1	
Five-twenties of July, 1864	1	
Consols of 1865	1	12
Consols of 1867	1	24
Consols of 1868	1	
Funded loan of 1881	1	53
Three per cent. loan of 1882	1	87, 612
Refunding certificates for conversion	13	43
Currency certificates of deposit	12	29, 631
Gold certificates	11	50
One and two year notes	19	1
Compound-interest notes	12	7
Seven-thirties 1864 and 1865	6	
<i>Redemption sinking fund.</i>		
Loan of July and August, 1861	1	31
Five-twenties of 1862	1	
Loan of 1863	1	24
Ten-forties of March, 1864	1	3
Five-twenties of June, 1864	1	
Consols of 1865	1	20
Consols of 1867	1	43
Funded loan of 1881	1	45
Three per cent. loan of 1882	1	56, 156
Consols of 1868	1	2
Loan of February, 1861	1	2
Five-twenties of 1865	1	8
<i>Destroyed.</i>		
Legal-tender notes	13	74, 828
Silver certificates	13	27, 310
Gold certificates	13	8, 742
Fractional currency	6	6
Old demand notes	7	
<i>Engraving and Printing.</i>		
Salaries, Bureau Engraving and Printing	12	17
Labor and expenses of engraving and printing	12	171
Compensation of employes	11	301
Materials and miscellaneous expenses	10	125
Plate printing	11	282
Custody of dies, rolls, and plates	10	5
Special witness or destruction of United States securities	9	1
Engraving of the statue of James A. Garfield	1	
Portrait of the late Thomas A. Hendricks	2	
Portrait of the late Reuben Ellwood	1	
Portrait of the late Joseph Rankin	1	
Portrait of the late John F. Miller	2	
Portrait of the late Michael Hahn	2	
Portrait of the late John A. Logan	1	
Portrait of the late Abraham Dowdney and others	1	
<i>Coast and Geodetic Survey.</i>		
Salaries	3	55
Party expenses	15	174
Transcontinental work	11	18
Points for State surveys	2	14
Repairs of vessels	5	11
Publishing observations	4	4
General expenses	5	10
<i>Revenue-Cutter Service.</i>		
Expenses, Revenue-Cutter Service	518	971
Rebuilding revenue-steamer <i>Richard Rush</i>	9	
Steam revenue vessel for Mississippi river	1	1
Revenue-marine storehouse, Wood's Holl, Mass.	4	1
<i>Life-Saving Service.</i>		
Life-Saving Service	257	611
Establishing life-saving stations	20	2

Accounts adjusted.	Number of accounts.	Amount.
DISBURSEMENTS—Continued.		
PUBLIC DEBT (PERMANENT)—continued.		
<i>Light-House Establishment.</i>		
Salaries, keepers of light-houses.....	77	\$549,032.69
Supplies of light-houses.....	129	870,576.44
Repairs of light-houses.....	80	326,155.20
Expenses of light-vessels.....	36	202,424.61
Expenses of buoyage.....	105	290,504.61
Expenses of fog-signals.....	55	46,409.22
Inspecting lights.....	11	2,309.60
Lighting and buoyage of rivers.....	62	186,980.77
Survey of light-house sites.....	13	2,005.95
Steam tender for the fourth light-house district.....	2	84.30
Construction of light stations and ships.....	135	202,735.20
Re-establishment of light-house, Texas.....	2	3,658.78
Depot fifth district, Virginia.....	3	1,722.06
Day beacons, Maine, New Hampshire, and Massachusetts.....	4	209.02
Reimbursement for losses sustained by burning of light-house tender <i>Lilly</i>	1	1,278.00
<i>Public Buildings.</i>		
Treasury building, Washington, D. C.....	10	12,134.74
Treasury building, Washington, D. C., improving sanitary condition.....	2	2,810.05
Reconstruction eastern portion Smithsonian Institution and repairs.....	3	173.47
Construction of court-houses, custom-houses, post-offices, etc.....	781	2,594,802.31
Repairs and preservation of public buildings.....	44	88,794.46
Storehouse, Government Printing Office.....	2	3,000.00
<i>Independent Treasury.</i>		
<i>Salaries:</i>		
Office of assistant treasurer, Baltimore, Md.....	12	21,599.71
Office of assistant treasurer, Boston, Mass.....	4	86,060.00
Office of assistant treasurer, Chicago, Ill.....	4	23,118.46
Office of assistant treasurer, Cincinnati, Ohio.....	4	16,298.80
Office of assistant treasurer, New Orleans, La.....	4	13,483.57
Office of assistant treasurer, New York, N. Y.....	5	169,047.97
Office of assistant treasurer, Philadelphia, Pa.....	4	35,951.41
Office of assistant treasurer, Saint Louis, Mo.....	7	15,860.00
Office of assistant treasurer, San Francisco, Cal.....	6	28,012.99
Special agents, Independent Treasury.....	7	3,693.43
Checks and drafts, Independent Treasury.....	4	3,164.84
Contingent expenses Independent Treasury.....	192	60,365.25
Treasurer's general account of receipts and expenditures.....	6	746,637,243.93
Paper for checks and drafts, Independent Treasury.....	7	2,368.89
<i>Mints and Assay Offices.</i>		
Salaries, office of Director of the Mint.....	5	23,056.83
Contingent expenses, office of Director of the Mint.....	120	6,776.10
Freight on bullion and coin.....	22	6,107.78
Salaries, wages, and contingent expenses of United States mints and assay offices.....	301	1,297,809.19
Gold and silver bullion.....	20	112,227,233.64
<i>Government in the Territories.</i>		
<i>Salaries of governors, etc.:</i>		
Territory of Alaska.....	43	17,442.09
Territory of Arizona.....	38	11,596.26
Territory of Dakota.....	77	23,974.49
Territory of Idaho.....	45	13,046.50
Territory of Montana.....	51	13,720.60
Territory of New Mexico.....	43	13,902.77
Territory of Utah.....	43	12,810.80
Territory of Washington.....	52	15,946.07
Territory of Wyoming.....	45	14,538.73
Legislative expenses.....	45	124,769.87
Contingent expenses.....	18	7,919.03
Compensation Utah Commission.....	59	24,836.98
Contingent expenses Utah Commission.....	11	8,478.70
Compensation and expenses, officers of election, Utah.....	11	23,880.40
<i>District of Columbia.</i>		
Improvements and repairs.....	36	454,702.50
Constructing, repairing, and maintaining bridges.....	10	6,895.87
Washington Aqueduct.....	14	18,450.14
Washington Asylum (support).....	25	49,597.84
Washington Asylum (buildings).....	20	4,428.76

Accounts adjusted.	Number of accounts.	Amount
DISBURSEMENTS—Continued.		
PUBLIC DEBT (PERMANENT)—continued.		
<i>District of Columbia—Continued.</i>		
Georgetown Almshouse	22	\$1
Hospital for the Insane	14	83
Transportation of paupers and prisoners	21	3
Reform School	7	45
Reform School buildings	3	1
Columbia Hospital for Women, etc	6	12
Children's Hospital	6	5
St. Ann's Infant Asylum	4	5
Industrial Home School	8	12
National Association for Colored Women and Children	4	9
Women's Christian Association	5	4
St. John's Church Orphanage	3	1
Building, National Homeopathic Hospital Association	1	15
Relief of the poor	24	19
Salaries and contingent expenses, District offices	44	156
Public schools	45	607
Buildings and grounds, public schools	19	51
Metropolitan police	28	300
Metropolitan police (buildings)	20	6
Fire department	25	111
Telegraph and telephone service	23	16
Health department	24	47
Courts	27	17
Judgments	11	18
Streets	37	294
Interest and sinking fund	21	1,745
Miscellaneous expenses	53	11
Expenses of assessing real property	11	12
Water department	32	296
Guarantee fund	11	33
Completion of sewerage system	15	321
Employment for the poor, filling up grounds	1	
Refunding water rents and taxes	15	
Refunding taxes	15	3
Redemption of tax-lion certificates	18	1
Redemption of assessment certificates	15	
Washington redemption fund	9	
Washington special tax fund	13	13
Firemen's relief fund	14	1
Police relief fund	14	5
Purchase and reconstruction of Aqueduct Bridge	6	108
Bridge across Eastern branch of Potomac river	1	
WAR DEPARTMENT.		
Salaries:		
Office of Secretary	12	111
Office of Adjutant-General	11	689
Office of Inspector-General	9	3
Office of Military Justice	9	13
Signal Office	10	41
Office of Quartermaster-General	10	196
Compensation and expenses of agents, Quartermaster's Department	12	22
Salaries:		
Office of Commissary-General	10	43
Office of Surgeon-General	10	498
Office of Paymaster-General	11	58
Office of Chief of Ordnance	10	44
Office of Chief of Engineers	11	23
Office of publication of Records of the Rebellion	10	28
Superintendent, etc., building corner Seventeenth and F streets	10	7
Stationery	19	49
Rent of buildings	11	65
Contingent expenses, War Department	24	106
Salaries of employes public buildings and grounds, under Chief of Engineers	14	48
Contingent expenses, public buildings and grounds, under Chief of Engineers	14	
Rent of office, public buildings and grounds, under Chief of Engineers	13	
Postage to Postal Union countries	8	4
<i>Public buildings and grounds.</i>		
Improvement and care of public grounds	14	54
Repairs, fuel, etc., Executive Mansion	15	32
Lighting, etc., Executive Mansion	14	14
Repairs to water-pipes and fire-plugs	14	2
Telegraph to connect the Capitol, Departments, and Government Printing Office	14	1

Accounts adjusted.	Number of accounts.	Amount.
DISBURSEMENTS—Continued.		
WAR DEPARTMENT—continued.		
<i>War, civil, miscellaneous.</i>		
Salaries office of superintendent State, War, and Navy Department Building.....	5	\$58,276.68
Fuel, lights, etc., State, War, and Navy Department Building.....	47	49,456.79
Building for State, War, and Navy Department.....	17	593,706.77
Building for Army Medical Museum and Library.....	23	77,198.34
Completion of the Washington Monument.....	14	42,812.98
Erection of monumental column, Yorktown, Va.....	1	784.88
Increasing the water supply of Washington, D. C.....	11	292,124.25
Transportation of reports and maps to foreign countries.....	7	160.09
Support and medical treatment of transient paupers.....	12	15,000.00
Maintenance of Garfield Hospital.....	5	11,352.65
Pedestal for statue of James A. Garfield.....	3	24,400.00
Erection of fish-ways at Great Falls.....	11	3,741.49
Monument at Washington's headquarters at Newburgh, N. Y.....	18	1,642.88
Sales of munitions of war.....	1	1,053.71
Statue to the memory of General Lafayette and compatriots.....	5	1,513.39
Removal of statue of General John A. Rawlins.....	2	865.37
Unveiling statue of Garfield.....	12	858.10
Improvement of Yellowstone National Park.....	17	9,900.65
NAVY DEPARTMENT.		
Contingent expenses office Secretary of the Navy.....	1	2,038.87
Salaries:		
Office of the Secretary.....	3	42,575.09
Bureau of Yards and Docks.....	3	8,985.00
Bureau of Equipment and Recruiting.....	3	11,002.96
Bureau of Navigation.....	3	8,505.00
Office of Naval Records of the Rebellion.....	3	1,356.53
Nautical Almanac Office.....	6	17,219.15
Hydrographic Office.....	3	32,246.56
Supplies, Bureau of Navigation.....	1	513.18
Contingent and miscellaneous expenses, Hydrographic Office.....	6	22,024.71
Salaries, Naval Observatory.....	4	18,120.40
Contingent and miscellaneous expenses, Naval Observatory.....	6	7,297.47
Salaries:		
Bureau of Ordnance.....	3	6,735.00
Bureau of Construction and Repairs.....	3	9,285.00
Bureau of Steam Engineering.....	3	9,117.50
Bureau of Provisions and Clothing.....	3	12,283.20
Bureau of Medicine and Surgery.....	3	7,005.00
Office of Judge-Advocate-General, U. S. Navy.....	3	4,845.00
Library, Navy Department.....	8	1,442.17
Contingent expenses, Navy Department.....	14	6,618.01
DEPARTMENT OF THE INTERIOR.		
Salaries, office of the Secretary.....	6	134,203.57
Publishing the Biennial Register.....	1	563.40
Stationery.....	8	58,449.31
Library, Department of the Interior.....	3	602.45
Rent of buildings.....	5	27,845.93
Postage to Postal-Union countries.....	5	3,297.00
Contingent expenses, Department of the Interior.....	13	163,095.00
Salaries, General Land Office.....	5	481,173.05
Expenses of inspectors, General Land Office.....	21	6,969.94
Library, General Land Office.....	5	632.75
Maps of the United States.....	5	22,336.35
Contingent expenses, General Land Office.....	9	3,150.28
Salaries:		
Indian Office.....	6	60,874.01
Pension Office.....	9	1,766,060.15
Investigation of pension cases, Pension Office.....	120	309,875.63
Salaries, special examiners, Pension Office.....	6	290,618.90
Investigation of pension cases, special examiners, Pension Office.....	97	212,656.90
Salaries:		
Indian Office.....	7	617,864.05
Pension Office.....	5	44,353.00
Investigation of pension cases, Pension Office.....	7	1,023.61
Salaries, special examiners, Pension Office.....	6	2,462.24
Bureau of Education.....	6	1,605.90
Expenses of inspectors, Bureau of Education.....	5	24,284.45
Library, Bureau of Education.....	3	26,955.49
Maps of the United States.....	21	320.50
Contingent expenses, Bureau of Education.....	2	8.88
Salaries, special examiners, Bureau of Education.....	4	12.7
Investigation of pension cases, special examiners, Bureau of Education.....	5	

Accounts adjusted.	Number of accounts.	Amount.
DISBURSEMENTS—Continued.		
DEPARTMENT OF THE INTERIOR—continued.		
Traveling expenses, office of Commissioner of Railroads	8	\$1.
Salaries:		
Office of Architect of Capitol	6	18
Office of Geological Survey	5	35
<i>Public buildings and grounds.</i>		
Repairs of building, Department of the Interior	4	4
Annual repairs of the Capitol	8	87
Improving the Capitol grounds	7	32
Lighting the Capitol and grounds	5	18
Capitol terraces	4	115
Stable and carpenter shop, House of Representatives	1	
Boiler-vaults and boiler, Senate	3	3
Furnishing building for Pension Office	3	2
Ventilation, Senate	2	1
Fire-proof building for Pension Office	5	80
Heating apparatus, building for Pension Office	4	6
Additional accommodations, Government Hospital for the Insane	20	27
Buildings and grounds, Columbia Institution for the Deaf and Dumb	5	9
Buildings and grounds, Howard University	5	7
Building for Library of Congress, construction	2	20
Building for Library of Congress, site	42	580
<i>Beneficiaries.</i>		
Current expenses:		
Government Hospital for the Insane	16	330
Columbia Institution for the Deaf and Dumb	6	73
Howard University	6	23
Support of Freedmen's Hospital and Asylum	8	54
Freedmen's Hospital, repairs to water-tank	1	
Education of feeble-minded children	3	3
Maryland Institution for the Instruction of the Blind (permanent)	4	3
<i>Interior—Miscellaneous.</i>		
Inter-State Commerce Commission	18	10
Investigation of affairs of bonded Pacific railroads	1	9
<i>Public lands service.</i>		
Depredations on public timber	8	68
Protecting public lands	13	89
Settlement of claims for swamp lands, etc.	7	17
Reproducing plats of surveys, General Land Office	4	5
Transcripts of records and plats	3	3
<i>Surveying public lands.</i>		
Surveying the public lands	9	35
Geological survey	110	353
Protection and improvement of Hot Springs, Ark	16	34
<i>Indian affairs—Miscellaneous.</i>		
Education of children in Alaska	5	18
POST-OFFICE DEPARTMENT.		
Salaries	5	703
Deficiency in the postal revenues	7	6,968
Miscellaneous accounts	18	13
DEPARTMENT OF AGRICULTURE.		
Salaries	5	139
Salaries and expenses, Bureau of Animal Industry	9	81
Quarantine stations for neat cattle	5	9
Collecting agricultural statistics	12	73
Purchase and distribution of valuable seeds	5	103
Improvement of grounds	3	1
Experimental garden	5	18
Laboratory	8	9
Museum	5	
Library	5	1
Experiments in the manufacture of sugar	7	66
Botanical investigations and experiments	7	2
Pomological information	4	
Investigating the adulteration of food	3	
Investigations in ornithology and mammalogy	4	8
Furniture, etc.	6	10
Investigating history, etc., of insects	11	20
Report on forestry	13	10

Accounts adjusted.	Number of accounts.	Amount.
DISBURSEMENTS—Continued.		
DEPARTMENT OF AGRICULTURE—continued.		
Tax culture	5	\$1,714.82
Silk culture	3	17,124.92
Postage	5	2,990.00
Contingent expenses	6	15,467.93
Erection of a Department of Agriculture	1	332.00
DEPARTMENT OF JUSTICE.		
Salaries	4	138,862.05
Contingent expenses:		
Furniture and repairs	3	804.82
Books for Department Library	3	424.91
Books for office of solicitor	3	391.25
Stationery	3	1,638.77
Horses and wagons	3	239.05
Miscellaneous items	4	5,261.05
Miscellaneous.		
Salary, warden of jail, District of Columbia	3	1,350.00
Expenses of Territorial courts in Utah	106	64,780.07
Salaries of employes court-house, Washington, D. C.	7	5,748.90
Traveling expenses, Territory of Alaska	3	10.00
Prosecution of crimes, Territory of Alaska	5	227.00
Industrial Home, Territory of Utah	2	5,000.00
Support of convicts	1	190.52
Payment to A. R. Erskine <i>et al</i>	1	400.00
Transportation of prisoners	1	757.68
Repairs to court-house, Washington, D. C.	8	1,607.13
Defending suits in claims against the United States	15	13,826.93
Punishing violations of intercourse acts and frauds	26	2,897.42
Prosecution of crimes	21	21,690.58
Payment for legal services	2	5,250.00
Relief of various parties	0	4,674.85
JUDICIAL.		
Salaries:		
Justices, etc., Supreme Court	98	80,208.82
Circuit judges	109	53,785.92
District judges	674	202,000.97
Retired judges	100	41,751.52
District attorneys	288	20,103.41
District marshals	261	12,816.37
Justice and judges supreme court District of Columbia ..	72	24,190.91
Salary and expenses supreme court reporter (permanent) ..	8	9,150.00
United States courts.		
Fees and expenses of marshals	606	1,021,342.45
Fees of district attorneys	857	433,636.50
Fees of clerks	661	212,141.50
Fees of commissioners	1,581	172,697.36
Fees of jurors	528	593,666.11
Fees of witnesses	749	831,129.24
Support of prisoners	673	389,109.18
Rent of court-rooms	190	52,948.58
Miscellaneous expenses	777	321,750.21
Fees of supervisors of elections	60	191,938.34
Judicial emoluments	121	624,224.75
Miscellaneous accounts settled for an appropriation	13	269.96
Total disbursements	27,930	1,284,471,603.27
Grand total receipts and disbursements	80,793	2,337,422,297.40
Number of certificates recorded		21,600
Number of letters recorded		5,772
Judicial emolument accounts registered and referred		484
Power of attorney for collection of interest on the public debt examined, registered		3,072
received and entered since January 1, 1887		1,691
to other offices since January 1, 1887		18,380
attorney entered and referred		1,014
payments		947
reports		6,830
law		599
collected and entered		4,571
collected and entered		6,282

I respectfully call attention to the fact that the office has received 1,393 more accounts in 1887 than in 1886, and not only transacted all the current business of the year, but reduced the number of accounts on hand compared with last year 882. In 1886 we transacted all the current business of the year and reduced the number of accounts on hand compared with the previous year 379. (In 1887 we did as much work as in 1886 and audited 2,275 accounts more.) This office is to be congratulated upon the fact that every desk in the several divisions has been cleared of all delayed work, and there is nothing at all in the way of a prompt settlement of current business. This work has been accomplished, however, at no sacrifice to the most rigid examination of accounts, and every question, legal or otherwise, involved in their adjustment. It is with pardonable pride that I make this announcement in my report, and in connection therewith take pleasure in commending Hon. E. P. Baldwin, the very efficient deputy auditor, and the chiefs, clerks, and other employes, who by their faithful, energetic, and intelligent service have made such an announcement possible.

Respectfully submitted.

Hon. CHARLES S. FAIRCHILD,
Secretary of the Treasury.

JAS. Q. CHENOWETH,
Auditor.

REPORT OF THE SECOND AUDITOR OF THE TREASURY.

TREASURY DEPARTMENT,
SECOND AUDITOR'S OFFICE,
Washington, D. C., October 29, 1887.

SIR: In compliance with section 283 of the Revised Statutes, and your instructions of July 25, I have the honor to submit the following report for the fiscal year which ended June 30, 1887, showing the application of moneys appropriated for those branches of the public service the accounts of which are audited in this office, the amount of work performed in each division during the year, and the condition of business at the close thereof.

BOOK-KEEPERS' DIVISION.

The amounts drawn from the Treasury on requisitions of the Secretary of War on account of the Medical, Pay, Ordnance, and other Bureaus, and by the Secretary of the Interior on account of the Indian service, together with repayments of unexpended balances, and the aggregate balances remaining in the Treasury on June 30, 1887, are shown by the subjoined tabular statements.

Appropriations.	Drafts.	Repayments.
<i>Appropriations for the War Department.</i>		
Army Medical Museum	\$3,000.00	.....
Appliances for disabled soldiers	563.00	.....
Arming and equipping the militia	324,174.07	\$14,267.11
Armament of fortifications	182,320.12	618.60
Artificial limbs	100,805.68	1,443.20
Artillery school at Fort Monroe, Va.	5,400.00	12.45
Benicia Arsenal, Benicia, Cal.	4,700.00	.38
Board on fortifications and other defenses	215.85	1,087.20
Bounty, act July 28, 1866	62,364.47	2,754.30
Bounty to volunteers and their widows and legal heirs	417,847.96	6,884.88
Collection and payment of bounty, prize-money, and other claims of colored soldiers and sailors	1,500.00	404.37
Collecting, drilling, and organizing volunteers	3,472.00	371.36
Contingencies of the Army	21,982.72	6,022.66
Contingencies of the Adjutant-General's Department	2,616.06	99.29

Appropriations.	Drafts.	Repayments.
<i>Appropriations for the War Department—Continued.</i>		
Draft and substitute fund	\$20.65	
Expenses of recruiting	73,316.39	\$1,274.85
Expenses of commanding general's office	1,200.00	
Extra pay to officers and men who served in the Mexican war	9,105.16	
Expenses of military convicts	4,319.84	
Frankford Arsenal, Philadelphia, Pa.	20,200.00	
Library, Surgeon-General's Office	10,000.00	
Machine guns	21,411.28	
Manufacture of arms at national armories	400,000.00	5.10
Medical and hospital department	217,802.92	15,078.38
Maintenance of Army and Navy Hospital, Hot Springs, Ark.	10,933.33	4,000.00
Ordnance material, proceeds of sales	56,230.09	11,790.11
Ordnance, ordnance stores, and supplies	253,741.41	809.53
Ordnance service	90,807.85	1,035.12
Pay, etc., of the Army	12,651,383.52	195,300.64
Pay of volunteers, Mexican war	535.76	
Pay of two and three year volunteers	380,429.31	6,628.27
Pay of Military Academy	204,081.16	2,335.42
Powder Depot, Dover, N. J.	35,000.00	
Proving Ground, Sandy Hook, N. J.	3,609.00	
Publication of Official Records of the War of the Rebellion	45,703.91	9,703.91
Reimbursement of National Home for Disabled Volunteer Soldiers for losses by failure of the Exchange National Bank of Norfolk, Va.	20,262.46	
Relief of sundry persons	3,199.26	
Repairs of arsenals	50,000.00	101.90
Rock Island Arsenal, Illinois	97,000.00	
Rock Island Bridge, Illinois	9,250.00	
Sea-coast batteries for instruction of militia	8,883.35	
San Antonio Arsenal, Texas	8,233.13	
Secret Service fund	100.00	
Signal Service, pay	220,000.00	2.40
Signal Service, medical department	2,864.71	
Signal Service, ordnance	14.40	
Soldiers' Home, permanent fund	163,740.00	
Soldiers' Home, interest account	17,930.13	
Springfield Arsenal, Massachusetts	15,000.00	
Support of National Home for Disabled Volunteer Soldiers	1,781,000.00	
Support of Soldiers' Home	231,819.30	
Treating machine	10,000.00	43.20
Three months' extra pay proper, act July 3, 1834	2,000.00	
Trusses for disabled soldiers	5,046.00	
New York Arsenal	500.00	
Miscellaneous items	1,074.92	3,548.22
Total drafts and repayments on account of War Department appropriations	18,277,215.00	285,590.14
<i>Appropriations for the Indian service.</i>		
Buildings at agencies and repairs	20,880.88	5,762.10
Civilization fund		490.69
Contingencies of the Indian Department	43,590.14	4,092.33
Ditches and reservoirs for Navajoes	7,065.57	
Expenses of Indian commissions and the Board of Indian Commissioners	4,509.33	5.65
Fulfilling treaties with various Indian tribes	809,451.11	53,281.06
Gratuity to certain Ute Indians	1,206.14	1,273.65
Home-roads for Indians, including Seminoles in Florida	1,372.00	184.50
Incidental expenses of the Indian service	133,222.27	11,328.50
Investigating Indian depredation claims	15,489.37	
Interest on trust funds, etc.	688,531.18	26,102.01
Irrigating-ditches, Indian reservations	5,431.00	734.29
Maintenance and education of Adelaide and Julia German	250.00	
Negotiating with certain Indian tribes	15,350.57	1,982.52
Pay of Indian agents, school superintendent, inspectors, farmers, interpreters, and police	264,037.74	5,095.67
Payment to North Carolina Cherokees and other Indians	3,328.00	50.00
Preventing liquor traffic, Indian reservations	1,253.25	250.00
Proceeds of Sioux reservations in Minnesota and Dakota	21,022.38	87.69
Relief of Indians at Crow, Fort Belknap, Fort Peck, and Blackfeet Agencies	8,500.33	3,454.70
Relief of destitute Indians	16,063.75	2,080.92
Removal and support of Confederate bands of Utes	2,002.38	621.01
School buildings, support of schools, etc.	1,165,616.79	40,225.93
Stock cattle for Indian industrial schools	600.00	233.10
Support of various Indian tribes and bands	2,810,743.61	58,027.33
Surveying, appraising, and allotting Indian lands	21,183.95	382.50
Telegraphing and purchase of Indian supplies	56,221.81	1,510.71
Transportation of Indian supplies	291,419.85	18,125.92
Traveling expenses of Indian inspectors and school superintendent	10,238.12	1,945.48
Vaccination of Indians	213.00	6.00
Miscellaneous items	1,386.10	367.99
Total drafts and repayments on account of the Indian service	6,431,295.64	238,335.35

GENERAL BALANCE-SHEET OF APPROPRIATIONS.

	War.	Indian.
DEBIT.		
To amount withdrawn from the Treasury July 1, 1886, to June 30, 1887.	\$18, 277, 215. 00	\$6, 431, 282. 00
To amount of transfer warrants issued to adjust appropriations	5, 817. 08	277, 062. 00
To unexpended balances carried to surplus fund	533, 578. 29	541, 285. 00
To aggregate amount of balances remaining to the credit of all appropriations June 30, 1887	3, 220, 602. 95	17, 235, 188. 00
Total	22, 037, 213. 32	24, 284, 755. 00
CREDIT.		
By balances on hand July 1, 1886	2, 422, 817. 36	18, 448, 282. 00
By amount of repayments during the year	235, 590. 14	238, 385. 00
By amount of counter-warrants issued to adjust appropriations	18, 475. 05	33, 964. 00
By amount of appropriation warrants issued during the year	19, 310, 330. 77	8, 568, 288. 00
Total	22, 037, 213. 32	24, 284, 755. 00

The miscellaneous work of the book-keepers' division consisted of:

Requisitions registered, journalized, and posted	5, 587
Settlements recorded, journalized, and posted	4, 189
Settlements made in the division, chiefly to adjust appropriations and close accounts	235
Certificates listed and indexed	1, 900
Repay requisitions prepared for the War and Interior Departments	479
Appropriation warrants recorded and posted	89
Official bonds of disbursing officers entered	97
Certificates of non-indebtedness issued in cases of officers and enlisted men	7, 149
Letters written	1, 519
Pages of legal cap used for special reports	150

The amount drawn from the Treasury on settlements made in the division was \$385,256.78, including the following sums on Soldiers' Home account:

Withdrawn from the "permanent fund" of the Soldiers' Home and paid to the treasurer of said Home, to meet current expenses (section 8, act March 3, 1883, 22 Stat., 565)	\$163, 740. 00
Interest on Soldiers' Home permanent fund (same act)	17, 930. 17
Effects of deceased soldiers and forfeitures on account of desertion credited to the permanent fund	234. 47

PAYMASTERS' DIVISION.

Number of accounts on hand July 1, 1886	1, 103
Received from the Paymaster-General during the fiscal year 1887	489
Total to be accounted for	1, 592
Number of accounts examined, stated, and transmitted to the Second Comptroller	1, 039
On hand June 30, 1887	546

Longevity claims, under the Tyler and Morton decisions (105 U. S., 244, and 112 U. S., 1), on hand July 1, 1886, 4; received during the year, 8; audited during the year, 9; on hand June 30, 1887, 3.

The service records of eighty-four officers have been corrected, under the acts of June 18, 1878, and February 24, 1881, and the above-mentioned decisions of the Supreme Court.

The record of deposits by enlisted men, under the act of May 15, 1872, shows that 6,921 deposits were made since last report, amounting

to \$442,280.34, and that 4,781 deposits amounting to \$296,168.19 have been withdrawn.

The amount involved in 1,038 paymasters' accounts, 9 longevity claims, and 205 miscellaneous settlements, was \$19,078,517.19, as follows:

Amount disbursed by paymasters, as per audited accounts.....	\$18,888,213.50
Amount of longevity claims allowed under the "Tyler decision"....	1,033.78
Amount of longevity claims allowed under the "Morton decision" ..	570.96
Amount certified to be due the Soldiers' Home on account of contributions (12½ cents per month), fines, and forfeitures by sentence of courts-martial, etc.....	172,159.95
Amount transferred to the books of the Third Auditor's Office on account of subsistence and quartermaster's stores, transportation furnished soldiers on furlough, etc., also transfers on Second Auditor's books.....	7,796.48
Charges raised against officers for overpayments, double payments, erroneous musters, etc.....	4,078.60
Credits on account of overpayments refunded and charges removed on satisfactory explanation.....	2,686.49
Miscellaneous payments to officers and others.....	1,181.08
Special settlements on account of telegraphic services.....	741.35
Total	19,078,517.19

Applications for rehearing, under the rules adopted November 10, 1885, received and disposed of, 22; letters received, 790; letters written, 1,211.

ORDNANCE, MEDICAL, AND MISCELLANEOUS DIVISION.

Accounts and claims on hand July 1, 1886.....	365
Received during the year.....	1,383
Total	1,748
Audited during the year.....	1,384

On hand June 30, 1887 364

The amount involved in the 1,384 accounts and claims disposed of was \$4,540,543.85, as follows:

Ordnance, ordnance stores, etc., ordnance service, arming and equipping the militia, armament of fortifications, repairs of arsenals, and other appropriations of the Ordnance Department.....	\$2,626,778.81
Medical and Hospital Department, artificial limbs, Medical Museum and library, and other appropriations of the Medical Department....	387,027.70
Contingencies of the Army, publication of Official Records of the War of the Rebellion, expenses of military convicts, expenses of the commanding general's office, contingencies of the Adjutant-General's Department, Board on Fortifications or other Defenses, special acts of relief, etc.....	71,918.13
Expenses of recruiting; collecting, drilling, and organizing volunteers, bounties and arrears of pay to colored soldiers, etc.....	54,410.46
Support of National Home for Disabled Volunteer Soldiers	1,400,408.75
Total	4,540,543.85

Number of payments to officers of the Army and volunteer forces recorded in the permanent register of payments.....	41,898
Miscellaneous claims disallowed	60
Number of letters written	8,075
Number of payments reported for use of clerks auditing claims of officers for arrears of pay, etc.....	23,742

Although fewer accounts were audited during the fiscal year 1887 than in 1886, yet there was no corresponding diminution in the work

performed, the bulk of accounts being larger in 1887 than in the previous year, as indicated by the amount of disbursements:

	Accounts.	Disbursements.
1886.....	1,559	\$3,738, 88
1887.....	1,384	4,546, 82

In this connection it may be noted that prior to August, 1884, each recruiting officer in charge of a rendezvous was also a disbursing officer and rendered monthly accounts. From that time until September, 1886, all recruiting expenses were paid by the superintendents of the recruiting service at New York and Saint Louis. Since September, 1886, there has been but one superintendent, stationed at New York, who defrays all expenses incurred at the various rendezvous as well as at headquarters, by checks on the assistant treasurer, New York. While this change has simplified the accounts of the recruiting service and reduced the number of such accounts from about four hundred per annum to twelve, it has not materially lessened the number of vouchers to be examined.

INDIAN DIVISION.

	Money accounts.	Property accounts.	Claims.
On hand July 1, 1886.....	297	126	1
Received during year.....	801	604	3, 87
Total.....	1, 098	730	3, 88
Audited and reported to the Second Comptroller.....	836	536	3, 85
On hand June 30, 1887.....	262	194	17

The disbursements allowed in settlement of accounts of Indian agents, inspectors, and other disbursing officers of the Indian service amounted to \$1,921,724.73, and there was certified as due contractors and other claimants for services and supplies the sum of. \$3,813,005.95, making the total disbursements \$5,734,730.68.

There have been furnished the Second Comptroller, to be forwarded to the Solicitor of the Treasury, for suit, 18 transcripts of accounts, involving the sum of \$63,720.24, mostly consisting of items suspended or disallowed in settlement by reason of infractions of law or regulations.

As the term "accounts" used in the above tabular statement includes not only the regular quarterly accounts of disbursing officers, but also the sets of explanations made by them in answer to objections raised by the Commissioner of Indian Affairs and the accounting officers, the following analysis of accounts on hand is added:

	Cash.		Property.		Total.
	Accounts.	Explanations.	Accounts.	Explanations.	
Under examination.....	101	70	77	36	284
Awaiting examination.....	45	46	40	41	173
	146	116	117	77	436

The simultaneous examination of cash and property accounts, referred to in last year's report, has been productive of the good results anticipated, and it is believed that these accounts are now examined with a thoroughness never before attained. The success of the system of records by which property is traced from purchase to issue continues to demonstrate the completeness and utility of the method adopted, but the great amount of work involved, which is regarded as merely incidental to the proper adjustment of accounts and claims, can not be exhibited in any general summary of results.

Letters written, 4,162.

PAY AND BOUNTY DIVISION.

EXAMINING BRANCH.

Classes of claims.	Claims pending July 1, 1886.	New claims re- ceived.	Old claims re- ceived.	Sent to settling branch.	Disallowed.	Referred else- where.	Claims pending June 30, 1887.
<i>White soldiers.</i>							
Commissioned officers.....	32,172	15,969	4,805	7,397	12,651	1,372	31,616
Enlisted men subsequent to April 19, 1861, arrears of pay, and all bounties.....							
Claims for pay prior to April 19, 1861.....							
Claims of laundresses, sutlers, tailors, etc.....	58	41	3	6	14	9	73
<i>Colored soldiers.</i>							
Arrears of pay and bounty.....	9,081	2,204	942	728	974	129	10,386
Total.....	41,676	18,601	5,871	8,294	13,904	1,572	42,378

SETTLING BRANCH.

Classes of claims.	Claims pending July 1, 1886.	Received from examining branch.	Claims settled and allowed.	Disallowed.	Referred else- where.	Claims pending June 30, 1887.
<i>White soldiers.</i>						
Commissioned officers.....	1,108	7,397	7,775	334	72	324
Enlisted men, subsequent to April 19, 1861, arrears of pay, and all bounties.....						
Claims for pay prior to April 19, 1861.....						
Claims of laundresses, sutlers, tailors, etc.....		6	6			
<i>Colored soldiers.</i>						
Arrears of pay and bounty.....	144	728	800	26	2	44
Total.....	1,252	8,294	8,744	360	74	368

The amount involved in 8,744 claims audited and allowed is \$1,016,456.49. The number of letters written was 203,981, an average of about eight to each claim disposed of, including those disallowed and referred elsewhere. Number of vouchers examined, 100,432.

The accounts of 4,400 soldiers of the regular Army who deserted between April 13, 1861, and December 31, 1880, have been examined and

the sum of \$67,709.84 found due the Soldiers' Home under section 4818, Revised Statutes. Unclaimed moneys due the estates of deceased soldiers, amounting to \$3,162.59, have also been found due the Home under the same law.

DIVISION FOR THE INVESTIGATION OF FRAUD.

The number of cases reported as remaining on hand June 30, 1886, was 7,100, but subsequent examination showed that 497 were merely additional settlements which had been made in certain cases. Treating all settlements in favor of the same soldier as one case there were only 6,603 individual cases on hand at the commencement of the fiscal year 1887. Since then 600 new cases have been referred to this division; 6,269 cases have been examined and re-examined, and 1,790 finally disposed of, leaving 5,413 on hand June 30, 1887, of the following classes:

White soldiers:	
Settled claims	619
Unsettled claims	80
Colored soldiers:	
Settled claims	1,497
Unsettled claims	1,380
Settled claims in cases where the payees could not be found and the money was returned to the Treasury after the lapse of seven years	1,797
Officers' cases, double payments	40

Thirty-five cases were prepared for the Department of Justice and 17 for the secret service division of the Treasury Department. Abstracts of testimony were prepared in 312 cases, and 4,947 letters written. The amount recovered in money and judgments was \$853.48.

PROPERTY DIVISION.

Quarterly returns of clothing, camp and garrison equipage, on hand July 1, 1886	3,299
Received during the year	3,665
Total	6,964
Settled during the year	4,198
On hand June 30, 1887	2,766

The number of vouchers examined in the settlement of returns was 47,528. Certificates of non-indebtedness were issued in favor of 5,249 officers, mostly volunteers, who have filed claims for additional allowances under recent laws and decisions. The sum of \$2,023.34 was charged to officers for clothing, etc., not accounted for, and collections were made to the amount of \$974.38. Letters received, 4,875; letters written, 3,008; letters recorded, 1,546.

Prior to 1871 this division was charged with the settlement of property accounts or returns rendered by Army officers responsible for ordnance, ordnance stores, and supplies, but on December 19, 1870, the Secretary of War directed that such returns, after rigid examination by the Chief of Ordnance, should be filed in the Ordnance Office, and not transmitted to the Treasury. As the act of March 3, 1817 (section 277, Revised Statutes), makes it the duty of the Second Auditor to receive and examine all accounts relating to military stores, it may be questioned whether such property accounts as have received only the rigid examination of the Ordnance Office have been adjusted in accordance with law. (See 13 Op., 483.)

DIVISION OF INQUIRIES AND REPLIES.

Officer making inquiry.	On hand July 1, 1886.	Received.	Answered.	On hand June 30, 1887.
Adjutant-General.....	1,429	10,591	10,861	1,659
Quartermaster-General.....	54	182	225	11
Commissary-General.....	181	1,098	1,097	182
Commissioner of Pensions.....	699	6,479	6,801	377
Commissioner of the General Land Office.....	1	15	16	.....
Third Auditor.....	204	2,486	2,548	142
Fourth Auditor.....	5	20	17	8
Miscellaneous.....	.....	975	975	.....
Total.....	2,878	21,846	22,040	2,879

Compared with last year's report the foregoing statement shows an increase of 3,708 in the number of inquiries received, and of 4,828 in the number answered, and a decrease of 194 in the number on hand. Of those remaining unanswered more than one-sixth are held for information from the Paymaster-General's Office as to date of final payment of enlisted men.

Miscellaneous work.—Muster-rolls and vouchers copied for the Adjutant-General, 296; letters, final statements, affidavits, certificates of disability, special orders, applications, and other papers copied, 1,583; pages of foolscap used in copying, 1,084; signatures examined for verification, 6,575; letters written, 4,103; descriptive lists of 22,432 soldiers briefed and filed away; final statements of discharged and deceased soldiers arranged and filed for future reference, 11,615. In this connection, 1,509 quarterly returns of deceased soldiers, embracing 22,282 names, have been examined, and reference slips filed with 20,170 settlements and 476 claims.

MAIL DIVISION.

For the better management of the increasing correspondence of the office as regards dispatch, accuracy, and uniformity, the division of correspondence and records was reorganized in June, 1886, as the mail division, and part of its work transferred to the pay and bounty division to which it properly belongs. The general duties of the mail division are to carefully examine, stamp, assort, and distribute all Departmental and other official mails as soon as received; to answer such letters as do not relate to the accounts of disbursing officers or to claims on file; to refer or otherwise properly dispose of all letters, claims, etc., erroneously addressed to the Second Auditor, and to revise and examine the outgoing mail for the purpose of detecting and rectifying errors and irregularities. The number of letters received was 47,258; letters written, 11,634; letters referred to other offices, 735; letters returned uncalled for, 1,378.

ARCHIVES DIVISION.

Paymasters' accounts received from the Pay Department.....	539
Confirmed settlements received from the Second Comptroller entered, indexed, and filed: Paymasters', 123; Indian, 3,135; miscellaneous, 1,082.....	4,340
Miscellaneous accounts withdrawn and returned to files.....	5,710
Vouchers withdrawn for reference.....	74,701
Vouchers returned to files.....	141,509
Vouchers briefed.....	652,148
File-boxes briefed and stenciled.....	4,795
Rolls repaired.....	4,583
Vouchers re-examined and verified.....	1,501,542
Letters written.....	763
Number of pages of abstracts, etc., copied.....	11,971
Pages of mutilated and defaced muster and pay rolls copied and compared.....	2,994

Great difficulty having been experienced in obtaining information to payments made to the militia of the various States called into service of the United States since the war of 1812, and of which record was made, a complete register of such payments by companies and regiments is now being prepared.

RECAPITULATION.

Description of accounts, etc.	On hand July 1, 1886.	Received.	Disposed of.	On hand June 30, 1887.
<i>Disbursing accounts.</i>				
Army paymasters	1, 102	482	1, 038	
Recruiting, ordnance, medical, and miscellaneous	865	1, 383	1, 384	
Indian agents	297	801	826	
Total disbursing accounts	1, 764	2, 666	3, 258	1, 173
<i>Claims.</i>				
Arrears of pay and bounty, including longevity claims	42, 932	24, 480	24, 663	42, 749
Indian	5	3, 837	3, 825	17
Total claims	42, 937	28, 317	28, 488	42, 766
<i>Property accounts.</i>				
Clothing, camp and garrison equipage	3, 299	3, 665	4, 196	2, 960
Indian	126	604	586	183
Total property accounts	3, 425	4, 269	4, 734	3, 143
Aggregate number of accounts and claims	48, 126	35, 252	36, 480	46, 898
Amount drawn out of the Treasury in payment of claims and in advances to disbursing officers				\$24, 798, 581.85
Less repayments on account of unexpended balances, etc.				822, 625.39
Net amount paid out				24, 184, 085.55
Total number of letters written				242, 462
Average number of clerks employed				27

CONDITION OF PUBLIC BUSINESS.

On July 1, 1886, the total number of accounts and claims of all kinds awaiting adjustment was 48,126; 35,252 were received during the year, making a total of 83,378, of which 4,430 were accounts of disbursing officers; 7,694 were property accounts of Army officers and Indian agents; 3,842 were claims of contractors and others for supplies furnished and services rendered to the Indian Department, and 67,412 were claims of officers and enlisted men for arrears of pay and bounty. The number audited and disposed of during the year was 36,480, as follows: Disbursing accounts, 3,258; property accounts, 4,734; Indian claims, 3,825; war claims, 24,663; leaving an aggregate of 46,898 on hand at the close of the fiscal year, namely, money accounts, 1,173; property accounts, 2,960; Indian claims, 17; claims for arrears of pay, etc., 42,749. These figures show that the volume of business to be transacted, so far as accounts and claims are concerned, has been reduced by 1,228 items, there being a decrease of 592 in the number of disbursing accounts on hand; 465 in property accounts and 183 in pay and bounty claims; while the number of Indian claims on hand has increased from five to seventeen, a temporary increase which is without significance.

Recognizing the importance, not only to the Government, but to its officers who have been intrusted with the disbursement of large sums

of public money; that the accounts of such disbursement should be promptly adjusted as required by law, I have endeavored to bring this class of business as nearly up to date as possible. The accounts of Army paymasters, who disburse about \$13,500,000 per annum, have been audited and the balances certified to the Second Comptroller to include March, 1886. As they do not reach this office until about three months after their date (that time being consumed by the administrative action of the Pay Department) they are twelve months in arrear. It is deemed practicable to bring them up to within six months, and a strong effort will be made to attain that end. The proposed substitution of monthly instead of bi-monthly payments to the rank and file of the Army—commissioned officers being already paid monthly—will, if effected, materially increase the bulk, though not the number, of paymasters' accounts, and will, of course, correspondingly increase the work of auditing them.

The accounts of disbursing officers of the Adjutant-General's Department, the Medical and Ordnance Departments, and sundry miscellaneous disbursing officers, whose payments average about \$3,500,000 per annum, are well in hand and do not call for special comment.

The accounts of Indian agents and other disbursing officers of the Indian Department, who expend about \$2,300,000 per annum, have been audited as nearly up to date as is practicable; in fact, many settlements have had to be postponed until the receipt of further accounts from the Indian Office. On June 30 there were only forty-five cash and forty property accounts not acted upon.

CLAIMS FOR ARREARS OF PAY AND BOUNTY.

The increase in the number of claims for arrears of pay and bounty presented to this office during the last seven years is sufficiently remarkable to call for special notice, and serves to explain the fact that twenty-two years after the close of the war of 1861-'65 there are upward of 42,000 claims awaiting adjudication. The minimum appears to have been reached in 1881, when only 8,682 claims were filed. The yearly record since then is as follows: 1882, 13,789; 1883, 16,971; 1884, 14,919; 1885, 19,762; 1886, 19,922; 1887, 24,480. These figures show that nearly three times more claims were presented in 1887 than in 1881. The increase is attributable to new legislation and decisions of the Supreme Court and the Second Comptroller, of which the following is a list:

- (1) Decision of Second Comptroller, January 18, 1882, that every officer, regular or volunteer, in service during any part of the two years from July 1, 1866, is entitled to the increase of 33½ per cent. on pay proper, under the act of March 2, 1867, (14 Stat., 422; Comptroller's Digest, vol. 2, section 788.)
- (2) Acts of July 19, 1848, and February 19, 1879, and decision of Supreme Court December 8, 1884, in relation to three months' extra pay for services in the Mexican war. (9 Stat., 248; 20 Stat., 316; 112 U. S. Reports, 512.)
- (3) Decision of Supreme Court in relation to longevity pay of retired officers—Captain Tyler's case. (105 U. S. Reports, 244.)
- (4) Acts of February 24, 1881, and June 30, 1882, and decision of the Supreme Court in relation to longevity pay of Army officers for service as cadets at the Military Academy—Captain Morton's case. (21 Stat., 346; 22 Stat., 118; 112 U. S. Reports, 1.)
- (5) Act of June 3, 1884, to provide for the muster and pay of certain officers and enlisted men of the volunteer forces. (23 Stat., 34.)
- (6) Act July 3, 1884, granting three months' extra pay to heirs of certain volunteer officers. (23 Stat., 66.)
- (7) Act July 5, 1884, to relieve certain soldiers from the charge of desertion. (23 Stat., 119.)
- (8) Decision of Second Comptroller, December 24, 1885, in regard to bounty under act of April 22, 1872. (17 Stat., 55.)

(8) Act May 17, 1886, to remove charge of desertion against certain soldiers. (24 Stat., 51.)

(10) Act February 3, 1887, amendatory of the act of June 3, 1834, for the muster and pay of certain volunteers. (24 Stat., 377.)

Experience has shown that not only those persons who have valid claims under new laws and decisions make demands upon the Treasury, but that thousands of others who fancy they have not been paid in full present formal applications in such comprehensive terms as to include every kind of pay, emolument, bounty, or other allowance that has been authorized since April 19, 1861. Under the practice that obtained prior to 1882, claims of the class last mentioned would have been summarily rejected by the Second Auditor, but by a decision of the Second Comptroller, which has governed the disposition of such cases since January 1, 1882, they must be examined and certified to that officer, with all vouchers and other evidence, for his action under section 277, Revised Statutes. The continued influx of claims devoid of merit explains the apparently undue proportion of disallowances which, last year, was nearly 58 per cent. of the entire number disposed of. If it were possible that the time spent in the examination and investigation of worthless cases could be devoted to the adjustment of meritorious ones, the list of unsettled claims could be rapidly diminished, and creditors of the Government might expect that their business with this office would be transacted within a reasonable period.

There are other causes which militate against the prompt liquidation of claims for pay and bounty. One is, that through pressure of other business the calls of this office upon the Adjutant-General's Department for necessary information touching the military history of soldiers whose cases are under consideration have accumulated until they are seven or eight months in arrear; but I have reason to expect that this cause of delay will shortly be removed. Another is found in the absence of appropriations applicable to the payment of such claims as soon as they are certified. This is a matter that can be remedied only by legislative action.

Alluding to these claims, in his report for the fiscal year 1880, my predecessor said:

The difficulties attending the adjustment of these claims increase rather than diminish. Questions of law and fact, heirship, identity, etc., now arise that were comparatively unknown when the claims accrued, and call for an amount of careful investigation and tedious correspondence not required ten years ago.

Experience demonstrates that, as we recede from the period of the war, each year adds increased difficulties to the transaction of this class of business.

REVOLUTIONARY CLAIMS.

Judging from inquiries received during the last fiscal year, many persons have inherited claims for supplies furnished during the Revolutionary war. These claims do not come within the jurisdiction of this office, nor, indeed, of any office, as they have been barred for more than ninety-three years, but the present possessors are not aware of that fact. The law by which they are barred reads as follows:

All claims upon the United States for services or supplies, or for other cause, matter, or thing furnished or done, previous to March 4, 1783, whether founded upon certificates or other written documents from public officers, or otherwise, which have not already been barred by any act of limitation, and which shall not be presented at the Treasury before May 1, 1794, shall forever after be barred and precluded from settlement or allowance. (Act February 12, 1793; 1 Stat., 301.)

OVERPAYMENTS DURING THE LATE WAR.

There are upward of 1,500 charges on the books of this office against officers and enlisted men of volunteers who served in the late war, ranging in amount from 56 cents to nearly \$3,000. Most of these cases have been investigated and demands made for refundment. In some instances, on proof being furnished the payees that they had really received more than the law allowed, repayment was made either at once or by installments. In other cases, where the payees refused or neglected to make restitution, and where their circumstances seemed to warrant such action, suits were instituted through the Department of Justice. But in the great majority of cases it has been found either that the debtors had died leaving no estate, or, if living, that they were without means of satisfying the demands of the Government. The replies elicited by letters addressed to local authorities as to the pecuniary condition of persons charged with overpayments are not without melancholy interest, showing, as they do, the low estate of many officers of the war of the rebellion. The following extracts are given as illustrations: "Disabled by wounds and financially embarrassed;" "No visible means of support;" "A poor man with a large family;" "Bankrupt and covered with judgments;" "Without home or means;" "In a charity hospital;" "Paralyzed and helpless."

Although there is hardly a possibility that the charges will ever be collected, there is no authority for removing them. The names of the payees must therefore remain on the list of persons indebted to the United States.

DEFECTIVE INQUIRIES.

Much unnecessary work is imposed upon this office by the neglect of correspondents to mention the regiments of soldiers to whom their inquiries relate. The record of claims filed since April, 1861, is kept by regiments, or other recognized organizations, such as batteries, independent companies, etc. An alphabetical list of claimants, not counting the legal representatives of deceased soldiers, would embrace more than 800,000 names, and be too unwieldy for reference, but an alphabetical record kept by regiments, etc., can be readily consulted. If the name of the soldier and the organization to which he belonged be given, any case presented to this office during the last twenty-six years can be found in a few minutes. Letters in which the soldiers' regiments are not mentioned have to be returned to the writers for further information.

DISALLOWED VOUCHERS.

In many cases where vouchers have been disallowed because the expenditures were not in accordance with law, disbursing officers have pleaded the orders of their lawful superiors as a reason why credit should not be withheld in the settlement of their accounts. Without entering into a discussion of the vexed question as to whether the accounting officers are bound to accept the orders of the head of an executive department, or an officer of rank, as sufficient authority for disbursements which, in their opinion, are not warranted by law, it is suggested that the statute in relation to disbursements made by order of commanding officers of the Navy might properly be extended to the War Department and the Indian Office. It reads as follows:

Every disbursement of public moneys, or disposal of public stores, made by a disbursing officer pursuant to an order of any commanding officer of the Navy, shall be allowed by the proper accounting officers of the Treasury in the settlement of the

accounts of the officer, upon satisfactory evidence of the making of such order, and the payment of money or disposal of stores in conformity with it; and the commanding officer by whose order such disbursement or disposal was made, shall be held accountable for the same. (Section 253, Revised Statutes.)

BOUNTY UNDER ACT OF APRIL 22, 1872.

By the act of April 22, 1872 (17 Stat., 55), every volunteer non-commissioned officer, private, musician, and artificer who enlisted prior to July 22, 1861, under the President's proclamation of May 3, 1861, and the orders of the War Department issued in pursuance thereof, and was actually mustered before August 6, 1861, is entitled to \$100 bounty, provided the same has not already been paid. In adjusting claims under this act the accounting officers adopted the rule laid down by the Secretary of War in construing the act of July 22, 1861 (12 Stat., 270), and decided that "those who were enlisted and mustered as above, and who were discharged for promotion, are not entitled to this bounty, as such discharge is not considered a muster out of the service as contemplated by General Order No. 15, 1861, under which the contract was made." (Digest of Bounty Laws, 1872, page 103. See also Comptroller's Digest, 1869, section 292.) This decision governed in all cases acted upon until December 24, 1885, when it was rescinded on the ground that a soldier discharged for promotion was honorably discharged within the meaning of General Order No. 15, of 1861. As soon as this action became known many claimants whose cases had been rejected under the decision of 1872 renewed their applications for bounty, which were again rejected, for the reason that they had already been adjudicated, and that, under section 191 of the Revised Statutes, the action of the Second Comptroller in formally disallowing these claims, pursuant to the decision of 1872, was final and conclusive upon all concerned, and subject to revision only by Congress and the proper courts. The subsequent decision of 1885, by which the prior one was reversed, can not therefore be applied to cases already settled and determined, nor can such cases be re-opened by the filing of new claims. But no explanation or argument can convince the average claimant whose case was rejected under the old decision that he has not been unjustly treated. He does not understand or appreciate the salutary rule of *res judicata*.

The class of claimants affected by the decisions herein referred to consists of men who volunteered as private soldiers and were promoted, in many instances, for gallantry in battle. They fulfilled in all respects the conditions of the act of 1872, and were legally entitled to the benefits conferred by that act, but were denied such benefits by what must now be considered as a misinterpretation of the law. The accounting officers do not appear to be wholly responsible for that misinterpretation, but as they adopted it and are now without power to remedy any injustice that may have been done to a meritorious class of men, I think it is not improper to invite attention to the matter and to suggest the enactment of a law for the relief of such persons as, under the first interpretation of the act of April 22, 1872, have been refused the bounty granted by that act.

Respectfully yours,

WILLIAM A. DAY,
Auditor.

Hon. CHARLES S. FAIRCHILD,
Secretary of the Treasury.

REPORT OF THE THIRD AUDITOR OF THE TREASURY.

TREASURY DEPARTMENT,
THIRD AUDITOR'S OFFICE,
Washington, D. C., November 1, 1887.

SIR: In compliance with instructions contained in your letter of July 25, 1887, to report the condition of the public business intrusted to my charge, for the fiscal year ended June 30, 1887, I have the honor to submit herewith the operations of the several divisions of this office during that period.

The total number of claims, accounts, and cases settled and disposed of during the fiscal year was 14,765, involving \$102,096,136.24.

ARMY PENSION DIVISION.

This division has charge of the settlement of the accounts of Army pension agents and the adjustment of all matters relating to the payment of Army pensions.

In order to adjust these accounts properly it is necessary to keep an account with each pensioner from the time the name is placed on the pension rolls until the pension ceases by death or otherwise. This office has, therefore, the records of all payments to pensioners from March 4, 1789, and the vouchers and receipts for each separate payment from July 1, 1818, the date when by authority of the act of April 9, 1818, the disbursements were placed under the control of the Secretary of War (instead of the Secretary of the Treasury) and the adjudication of the accounts transferred from the First to the Third Auditor. The vouchers and accounts prior to that time were in the custody of the Register of the Treasury, and have been destroyed. A portion of them were burned by the British in 1814, and the remainder in the Treasury fire in 1833.

The report of the operations of this division, as appears in the tabulated statement herewith submitted, shows a large growth in the work of the record section, arising from the increased number of pensions granted, increased, reissued, etc., including Mexican war pensions. The number of notifications of issue of pensions during the fiscal year was 101,363, against 75,542 received the previous year—an excess of 25,821, or 33 per cent. The number recorded during the same period was 91,710, against 79,221 in the previous year—a gain of 12,489, or 15 per cent. There was also a large increase in the work assigned to the examining section, the accounts received involving \$71,817,061.56, against \$63,989,888.97 received in 1886—a difference of \$7,827,172.59, or 12 per cent. Notwithstanding this addition to the business, and the fact that the force employed averaged 33 clerks against 41 in the previous year, the work has been kept up to date.

CLAIMS DIVISION.

This division is charged with the settlement of claims of a miscellaneous character arising in the various branches of service in the War Department, and growing out of the purchase or appropriation of supplies and stores for the Army; the purchase, hire, or appropriation of water-craft, railroad stock, horses, wagons, and other means of transportation; the transportation contracts of the Army; the occupation of real estate for camps, barracks, hospitals, fortifications, etc.; the hire of employés, mileage, courts-martial fees, traveling expenses, commutations, etc.; claims for compensation for vessels, railroad-cars, engines, etc., lost in the military service; claims, under act March 3, 1885, for compensation for private property lost by officers and soldiers in the

military service; claims growing out of the Oregon and Washington war of 1855 and 1856, and other Indian wars; claims of various descriptions under special acts of Congress, and claims not otherwise as signed for adjudication.

The tabular statement herewith shows the number of claims received and settled, respectively, during the fiscal year, and the number on hand at the beginning and the end, respectively, of the year.

In the class called "Miscellaneous," which includes the great mass of the claims, it is pleasing to note the great reduction made in each of the last two fiscal years, as shown by comparison, as follows:

On hand July 1, 1884, 21,620 claims (\$9,389,571.31); on hand July 1, 1885, 22,239 claims (\$9,470,501.21), an increase of 619. On hand July 1, 1886, 9,652 claims (\$2,299,252.95), a reduction of 12,587. On hand July 1, 1887, 2,681 claims (\$330,467.19), a reduction of 6,971. Thus the aggregate reduction in the two years is 19,558 claims, involving \$9,140,034.02. This very gratifying showing is not due to any falling off in the receipt of claims; on the contrary, the number received in each of the last two years greatly exceeded that received in the year ended June 30, 1885, viz:

Received in year ended June 30, 1885	4,359
June 30, 1886	7,683
June 30, 1887	7,397

COLLECTION DIVISION.

This division prepares transcripts of accounts of defaulting officers to be reported for suit; examines and reports on all cases for information from the files of the office in various matters, including reports on the evidence relating to claims for bounty land and pensions to soldiers of the war of 1812.

Under the act of July 4, 1864, providing for the adjustment of claims for quartermaster's stores and commissary supplies taken from loyal citizens in loyal States for the use of the United States Army, a large amount of work was imposed on this division. The vast majority of these claims was not supported by vouchers or receipts, but rested entirely upon *ex parte* testimony. As one check upon them, the Quartermaster-General and the Commissary-General have, from time to time, called on this office for examinations of the accounts rendered by officers of those departments in respect both to property taken from or payments made to the claimants. In many cases the claimants could only approximate to the dates of the taking of their property, and frequently could not give the names of the officers who took it. As the Union Armies were almost constantly upon the move in Tennessee and Kentucky—the States in which the great majority of this class of claims originated—and as payments upon vouchers (if issued) might have been made by officers at long distances, the examinations required have generally covered voluminous accounts of a great number of officers and for long periods, and the burden of this labor has been correspondingly large. I am much gratified at the improvement which has been made in disposing of this work. From being far in arrears at the commencement of my term of office, the work has been so brought up by great diligence, that the examinations are now usually completed within one month from the receipt of the inquiries, and this, too, with a reduced clerical force.

The sum of \$35,688.35 has been collected and covered into the Treasury during the year, received from delinquent pension agents, quartermasters, and commissaries. These delinquencies were in most cases of long standing—covering a period of the last twenty years.

As shown in the tabulated statement, the work of the division is well in hand; in fact, current work and cases are usually disposed of within a few days after they have been received.

MILITARY DIVISION.

The military division settles the accounts of quartermasters for the transportation of the Army and its supplies; the purchase of clothing, camp and garrison equipage, horses, mules, forage, fuel; the support of the Military Academy and military prisons; accounts of commissaries and acting commissaries for the purchase, preservation, and distribution of provisions and stores necessary for the subsistence of the Army; accounts of engineers for the construction and preservation of fortifications and breakwaters, the improvement of rivers and harbors, and for surveys on the coasts, lakes, and rivers; accounts of the Signal Service for Army signaling, reconstruction and repair of military telegraphs, and for the observation and report of storms for the benefit of commerce.

From an examination of the tabular statement appended it will be observed that 2,495 accounts, involving \$5,986,306.72, remaining over from the fiscal year 1886; that 6,877 accounts, involving \$20,895,946.16 were received, and 6,254; involving \$21,581,824.65 were settled; that 373 supplemental settlements, involving the sum of \$1,304,040.50 were made during the year; that 1,738 property returns remaining from the fiscal year 1886; 8,877 were received and 8,945 were settled during the year; 8,529 letters were written; 930,714 vouchers were examined; 21,379 pages manuscript were written, and 3,739 inquiries of the Second Auditor for report as to the condition of the accounts of officers designated by him, were examined and reported on; all the above being the result of the labor of 23 clerks.

The business in this division is now brought up as close to the military bureaus from whence the accounts and returns are received for adjustment, as their methods will permit. Owing to the mode of transacting business in the quartermaster's department, and, to a certain extent, in the subsistence department, accounts of any one officer for any given period, can not well be adjusted until the accounts of other officers with whom he may have interchanged money or property have also been received, so that debits and credits may be verified. The work is also as close up to the Second Comptroller as is desirable, for the reason, that when an account has been adjusted and reported for revision and certification the same officer's accounts for subsequent periods, that may have been received soon after the settlement of prior accounts was reported to the Comptroller, can not be adjusted and stated until the settlement of the prior periods have been certified by the Comptroller. Notwithstanding that fact the average length of time accounts remained in the files in this office prior to adjustment, as shown by a close inventory made by me a few months ago, is as follows, viz:

Quartermaster accounts, 2 months 18 days.

Signal accounts, 8 months 11 days.

Engineer accounts, 4 months 17 days.

Subsistence accounts, 3 months 15 days.

And at the close of the fiscal year the average of all the accounts was 3 months and 1 day. At the time the inventory above referred to was made, it was found the average period which had elapsed from the date of rendition until the accounts reached this office from the military bureaus having administrative action on them, was as follows, viz:

Quartermaster accounts, 10 months 9 days.

Signal accounts, 4 months 8 days.

Engineer accounts, 2 months 8 days.

Subsistence accounts, 3 months.

Upon comparison with prior reports I find the amount involved in the military accounts on hand at the close of the fiscal year, viz, \$5,300,428.22, is less than at the close of any fiscal year since 1860, with the exception of one year, when only one river and harbor appropriation had been made in three years, consequently the engineer accounts for one year were comparatively small and nearly closed. Upon comparison of the result of the present year's operations with that of the fiscal years 1885 and 1886, respectively, I find a marked increase in the percentage of labor performed. The clerical force employed in 1885, on military accounts and returns, was 18 per cent. more than in 1886, and 22 per cent. more than in 1887; also, that 4 per cent. more were employed in 1886 than in 1887; and the proportional increase in labor performed in 1887 over that in the fiscal years mentioned is as follows:

Increase in labor in 1886 over 1885, 37.5 per cent.

Increase in labor in 1887 over 1885, 94.5 per cent.

Increase in labor in 1887 over 1886, 40.1 per cent.

It is needless to add that this favorable result was only attained by the increased industry of the force employed.

The accounts of officers of the Quartermaster's Office now run very smoothly. When expenditures have been made and paid from an appropriation for a different fiscal year from that to which it was properly chargeable, and to that extent the law governing appropriations violated, it is customary to adjust the matter by means of a transfer settlement, in which a requisition is called for, the proper warrant to charge the expenditure to the appropriation for the fiscal year from which it should have been paid, and carry a like sum to the credit of the appropriation from which the expenditure was wrongfully paid. The War Department, however, does not always act promptly in such cases, the delay at times being apparently for the purpose of "saving" the appropriation properly chargeable, so that it can be drawn again for current use, instead of paying debts to other years. Some certificates of settlements made in such cases have been in the War Department two years, others a less period, awaiting the Secretary's requisition for the necessary warrants to adjust the appropriations on the books of this office, thus to that extent at least rendering nugatory the efforts of the accounting officers to confine expenditures to the appropriations for the proper fiscal year, as contemplated by existing laws on the subject.

In the adjustment of accounts for disbursements on account of subsistence of the Army considerable extra labor has been necessary, by reason of extra-duty service in that branch of the Army having been paid from the appropriation "Subsistence of the Army" instead of by the Quartermaster-General from the appropriation "Incidental expenses." Transfer settlements are being made as rapidly as possible, and it is believed that at an early day nearly all such cases will be adjusted. As such service has been specifically provided for in appropriations for the subsistence of the Army subsequent to the fiscal year 1886, such complications will not arise again. Engineer accounts are generally adjusted soon after their rendition and reception, this being possible for the reason that each officer's account is not connected with the accounts of other officers of the corps. And their adjustment would be facilitated if their property returns were received with the accounts to which they pertain. They are now received after the money accounts have been examined, and credits claimed on account of purchase of property are necessarily suspended until the property returns for the period have been received and examined, thus making additional labor.

The signal accounts were under special investigation by the Second Comptroller during a considerable portion of the year.

Congress a few years ago made appropriations for the construction by the Signal Service of sundry military telegraph lines south of the Union Pacific Railroad, and provided that the expenses of operation and repair should be paid from receipts for commercial business sent over the lines, any excess of receipts over expenses to be covered into the Treasury. Subsequent legislation made appropriations for the construction by the Signal Service of similar lines north of the Union Pacific Railroad, a proviso being added, that the receipts from commercial business should be deposited in the Treasury, and that the expenses of operation and repair should be paid from appropriations for the Army; but the acts failed to designate the special appropriation for the Army to be charged with such expense. The lines last referred to were generally constructed under the supervision of the officers who built the southern lines, and the receipts from commercial business were used to liquidate the expenses of operation and repair, the same as provided by law should be done in the southern system, but in direct violation of the laws under which the northern system of lines were constructed. When the accounts of the officers in charge of the northern system of lines were adjusted, all such expenditures were disallowed as in violation of law, and remain disallowed against the officers who made the expenditures. Congress having failed to designate the particular appropriations for the Army to be charged with the expense of operating and keeping the lines in repair, the matter could not be adjusted by a transfer settlement.

Congress in the act approved March 3, 1883, "provided that on and after the 1st day of July, 1883, all moneys received for the transmission of private dispatches over any and all telegraph lines owned or operated by the United States shall be paid into the Treasury of the United States, and all acts and parts of acts inconsistent herewith are hereby repealed." Since the fiscal year 1883 specific appropriations have been made for the maintenance and repair of the military telegraph lines. In view of the facts above recited, and of the further fact that the officers referred to disbursed the receipts in good faith, believing they were authorized under the law to do so, it is respectfully suggested that the matter be brought to the attention of Congress, with a recommendation for their relief.

The number of officers on duty during the fiscal year 1887, whose accounts and returns are settled in this division, is as follows, viz:

Quartermaster's Department	925
Subsistence Department	461
Engineer Corps	40
Signal Corps	275
Total	1,701

In conclusion, I desire to bear testimony to the industry of the clerks employed, as well as their skill in the adjustment of accounts covering such a wide range of expenditures made under so many various and conflicting laws, orders, and regulations.

MISCELLANEOUS DIVISION.

The miscellaneous division adjusts, under section 4718, Revised Statutes, claims for expenses incurred on account of last sickness and burial of deceased pensioners; also records, compares, copies, indexes, and registers letters; copies and compares difference sheets and miscellaneous papers, and has charge of the filing and care of settlements, etc., made by the office.

There remained on hand at the close of the fiscal year 117 reimbursement claims undisposed of under section 4718 Revised Statutes, as against 1,167 on November, 1885, the date of the formation of the division, and 690 cases remaining on hand June 30, 1886. During the year 41 claims have been investigated by the secret service division under the direction of this office, resulting in a saving to the Government of over \$30,000, and in the conviction of several persons for presenting false claims. Not only has the current work been kept up, and claims which had laid dormant for years been disposed of, but the work has been performed with less force and in a far more satisfactory manner. This office is under obligations to the Commissioner of Pensions and the various pension agents, for the promptness with which they furnish such information as may be called for in order to expedite the settlement of reimbursement claims.

The work in the other sections of the division is in a very satisfactory condition.

HORSE CLAIMS DIVISION.

This division adjusts claims for compensation for losses of horses and equipage sustained by officers and enlisted men in the military service of the United States; also, those of other persons for horses, mules, oxen, wagons, sleighs, and harness, while the same were in the military service of the United States, by impressment or contract.

In submitting the tabular report of the operations of this division for the last fiscal year, I desire to explain the item "Claims on hand June 30, 1886." For many years the figures entering into this item have been the result of estimates, and these figures, less the reductions caused by the annual disposition of cases, have been carried forward from year to year and accepted as correct. It was not until April 1, 1887, that a careful count was made of the number of claims pending and the amount thereof, which showed that while, according to the estimated number, there should have been on hand 6,921 claims, there were in fact 9,545, or 2,624 more than appeared on the record. These were classified as follows:

War of 1812, Mexican war, and other claims accruing prior to the war of the rebellion.....	1,877
Indian Home Guards claims	1,940
Claims for losses accruing during the war of the rebellion	6,419
Total	9,545

This corrected data would make the actual number on hand June 30, 1886, 11,039 instead of 8,415, as stated in my annual report for the fiscal year. The total amount claimed was also increased from \$1,325,521.75 to \$1,447,911.10.

The number of cases disposed of the past year is greater than that of any previous year. Those allowed and rejected in the years named were as follows:

1881	397
1882	441
1883	533
1884	768
1885	935
1886	2,813
1887	3,088

I am confident that during the current year at least one-half or more of the cases on hand will be disposed of. Due consideration will be given to each case and no hurried disposition will be made of any claim. This will be accomplished with a less number of clerks than has been employed in the division for many years.

BOOK-KEEPER'S DIVISION.

This division keeps the appropriation accounts pertaining to the office of the Third Auditor, upon which pay and counter requisitions are made by the Secretaries of War and Interior; also the accounts of traveling officers and agents handling funds so drawn.

The tabular statement herewith shows the financial operations of this division during the fiscal year ended June 30, 1887. It will be observed that the requisitions of this office on the Treasury for the period named amounted to \$103,371,167.07, nearly or quite one-third the total expenditures of the Government for the fiscal year.

STATE WAR CLAIMS.

[Under immediate supervision of the Auditor.]

The investigation and settlement of State war claims include all claims filed in this office by the several States and Territories, under various acts and resolutions of Congress for the costs, charges, and expenses incurred by them for enrolling, subsisting, clothing, supplying, equipping, paying, and transporting their troops employed in the war to suppress the late rebellion against the United States, 1861-'65, and all claims arising out of Indian hostilities and border invasions.

The following statement shows the operations in these claims for the year ending June 30, 1887:

	Claims.	Amount.
June 30, 1886.....	190	\$9,542,615.89
Added during the year.....	2	24,448.96
Deleted during the year.....	8	277,189.64
Total.....	200	9,844,282.49
Deleted during the year.....	25	109,271.38
Added during the year.....	116	4,763,008.66
Total.....	141	4,872,275.04
June 30, 1887.....	59	4,971,977.45

Letters received, 393; pages manuscript written, 1,300; letters written, 81; vouchers examined, 3,062.

It will be seen from the above statement that much has been done toward the final adjustment of the claims of the States.

During the year 141 claims have been finally disposed of, involving \$2,275.04, of which sum \$109,271.38 were found due States, as follows:

Name of State.	Amount.	Name of State.	Amount.
Arkansas.....	\$32,528.73	Maryland.....	\$289.53
Connecticut.....	4,655.80	New Hampshire.....	476.56
Delaware.....	3,071.41	New Jersey.....	6,548.45
Florida.....	8,813.66	Ohio.....	2,651.91
Georgia.....	448.99	Pennsylvania.....	2,893.68
Idaho.....	20,834.19	Wisconsin.....	24,102.86
Iowa.....	1,493.16		
Kansas.....	462.45		109,271.38

It is proper to add here that the further sum of \$35,860.86 was found due the State of Ohio, by the Second Comptroller in a claim which had previously disallowed by this office. The several amounts found have been placed to the credit of the States named, to await appropriation by Congress for payment, except \$8,813.66 and \$7,460, found due the States of Kentucky and New York, respectively, not acted on by the Second Comptroller's Office.

The absence of a uniform system for filing these State accounts and the condition of the office records referring to the various operations in these matters, have led to some embarrassment and delay in

arriving at correct results; but after a careful revision of the claims which enter into the report for the year, and the adoption of a more complete method for keeping the records, no difficulty will hereafter be encountered in arriving at the true status of each and every account.

The following statement shows the comparison of work done for the fiscal years ending June 30, 1835, June 30, 1886, and June 30, 1887, respectively:

	1885.		1886.		1887.	
	No.	Amount.	No.	Amount.	No.	Amount.
On hand at beginning of year.....	209	\$10,883,305.83	203	\$10,428,046.69	190	\$9,542,615.89
Received during the year.....	1	141,656.56	2	32,565.39	2	24,446.00
Reconsidered during the year.....					8	277,100.00
Total.....	210	11,025,052.39	207	10,460,612.08	200	9,844,232.00
Allowed during the year.....	5	371,251.09	10	63,131.72	25	100,271.00
Disallowed during the year.....		225,754.61	7	854,864.47	116	4,783,000.00
Total disposed of during the year.....	5	597,005.70	17	917,996.19	141	4,883,271.00
On hand at the end of the year.....	205	10,428,046.69	190	9,542,615.89	50	4,971,977.00
Increase of work done in 1886 over 1885.....			12	320,990.49		
Increase of work done in 1887 over 1885.....					130	4,275,200.00

But one clerk has been employed in the settlement of State war claims for each of the fiscal years shown above. From July 1, 1885, to February 1, 1886, the work was not in progress owing to the pressure of business in other branches of the office.

In response to my circular letter of June 8, 1886, addressed to the governors of the several States, requesting early presentation of further evidence—if it should be contemplated to offer any in reply to outstanding differences—much additional testimony has been offered during the past year, and the claims are being considered and disposed of as rapidly as possible.

THE CLERKS.

At the commencement of my term of office, May 1, 1885, there were 159 clerks on the pay-roll. For the salary of the Auditor, deputy auditor, clerks, and laborers, \$227,210 was appropriated. The work in every division was in arrear—in some divisions, two and three years. On the 30th of June last the number of clerks actually employed was 132, and the amount paid for salaries of Auditor, deputy, clerks, and laborers, was \$196,426.97.

The business of the office is in good condition and the several divisions are mostly engaged in disposing of current work. The clerks, with few exceptions, have been faithful and industrious, and as a result the public business has been disposed of with reasonable dispatch.

I am happy in again being able to call your attention to the improved condition of the health of the clerks employed in this office as compared with former years. For the fiscal year ending June 30, 1885, there were 1,780 sick days. This would seem to have been a very sick year, yet I am told there were very few fatal cases. For the fiscal year ending June 30, 1886, there were 626½ sick days, and for the last fiscal year only 464 sick days. It is suggested that the climatic conditions of Washington may have changed with the change of officials, about which I express no opinion.

Very respectfully,

JNO. S. WILLIAMS,
Third Auditor.

Hon. CHARLES S. FAIRCHILD,
Secretary of the Treasury.

REPORT OF THE FOURTH AUDITOR OF THE TREASURY.

TREASURY DEPARTMENT,
FOURTH AUDITOR'S OFFICE,
Washington, D. C., October 20, 1887.

SIR: I have the honor to submit the annual report of the work of this Bureau for the fiscal year ending June 30, 1887.

BALANCES AND LIABILITIES UNDER PAY OF THE NAVY AND MARINE CORPS.

The following table shows the balance to the credit of "Pay of the Navy" and "Marine Corps" on June 30, 1887; also the ascertained liabilities.

These appropriations were continuous until the end of the fiscal year 1886, since which time they have been annual.

The balance, \$167,667.81, remaining to the credit of "Pay of the Navy," June 30, 1886, has been carried to "Pay of the Navy, 1887."

STATEMENT OF APPROPRIATIONS "PAY OF NAVY, 1887," AND "PAY OF MARINE CORPS, 1887."

Pay of the Navy, 1887.

Balance in hands of disbursing officers, June 30, 1887.....	\$123,442.59
Balance in Treasury, as shown by ledger, June 30, 1887.....	1,338,925.12
Balance in Treasury, as shown by ledger (pay no year).....	167,667.81
Total balance.....	1,630,035.52

The liabilities June 30, 1887, were as follows:

Amount due and unpaid officers and men.....	\$934,253.32
Amount due Naval Hospital fund.....	21,310.81
Amount due clothing, Navy.....	45,807.60
Amount due small-store fund.....	14,503.86
Amount due general account of advances.....	597,759.62

Total liability..... 1,613,635.21

Available balance..... 16,400.31

Pay of Marine Corps, 1887.

Balance in hands of disbursing officers June 30, 1887.....	\$23,957.73
Balance in Treasury as shown by ledger, June 10, 1887.....	110,091.19

Total balance..... 134,048.92

The liabilities June 30, 1887, were as follows:

Amount due and unpaid officers and men.....	69,894.84
Amount due Naval Hospital fund.....	1,143.52
Amount due general account of advances.....	32,677.06

Total liability..... 103,715.42

Available balance..... 30,333.50

EXCHANGE.

Bills of exchange were sold by the pay officers of the Department of the Navy during the year to the amount of \$1,455,484.14. Of this sum \$1,246,044.59 was drawn on the Navy agents at London, and \$209,439.55 on the Secretary of the Navy.

SPECIAL FISCAL AGENTS AT LONDON.

Under the contract now in force, a commission of one-half of 1 per cent. is paid to Brown, Shipley & Co., special fiscal agents at London on disbursements made by them on account of the Navy Department. The amount of \$7,245.93 was paid to them as commissions under the

above-mentioned arrangement during the past fiscal year. On the daily balances in their hands they pay the Government the rate of interest paid by the London joint-stock banks, and on advances they receive the rate charged by the Bank of England. Interest amounting to \$54.83 has been paid to them on advances, and they have paid the Government \$3,289.78 on the daily balances.

There has been a net gain of \$11,274.69 in the transfer of funds from New York to London.

WORK OF THE OFFICE.

The following tables show a summary of the work performed in the different divisions of the office for the fiscal year:

PAYMASTERS' DIVISION.

Date.	Letters received.	Letters written.	Accounts received.	Accounts settled.	Cash vouchers examined.	Amount involved.
1886.						
July	134	142	25	38	826	\$914,538.50
August	166	152	48	34	636	848,167.42
September	118	151	21	36	980	947,337.36
October	120	137	19	16	209	518,407.87
November	156	150	49	25	543	648,014.65
December	140	138	17	27	517	741,961.89
1887.						
January	157	133	22	40	750	1,426,873.17
February	169	146	52	43	682	943,071.35
March	120	153	22	36	903	1,311,794.95
April	114	138	26	21	487	548,473.32
May	175	153	53	27	419	566,698.72
June	101	118	13	36	700	823,012.29
Total	1,070	1,711	367	379	7,742	10,238,612.29

Accounts on hand July 1, 1886.....

Accounts on hand July 1, 1887.....

BOOK-KEEPER'S DIVISION.

Date.	Pay requisitions.		Repay requisitions.		Letters received.	Letters written.	Accounts journalized, entered, and balanced.	Ledger extracts for settlement.	Answers to inquiries for accounts on ledgers.	Accounts received and settled.	Monthly returns of receipts and expenditures.
	No.	Amount.	No.	Amount.							
1886.											
July	264	\$2,207,545.13	41	\$344,450.34	308	349	134	49	94	6	65
August	687	1,925,421.98	32	493,130.52	223	277	26	43	109	3	73
September	709	1,673,521.72	21	28,977.70	190	275	155	44	114	1	73
October	258	2,030,727.13	33	400,411.83	215	334	137	41	110	2	86
November	226	1,548,310.15	26	95,374.85	267	317	172	44	108	2	78
December	270	2,350,957.12	27	1,143,847.37	207	299	96	41	112	3	74
1887.											
January	278	2,087,334.42	37	840,945.18	222	317	144	71	190	4	73
February	278	1,735,893.03	40	822,684.10	214	308	116	55	190	9	61
March	365	2,158,163.57	27	1,162,561.27	261	358	208	40	112	5	87
April	292	1,913,612.02	31	696,721.83	309	354	165	43	77	4	76
May	302	1,831,630.63	35	577,109.55	190	328	163	52	66	5	81
June	274	1,551,957.63	37	530,857.37	200	361	140	55	106	9	79
Total	4,203	23,023,974.50	387	7,197,132.13	2,836	3,880	1,686	578	1,278	53	663

GENERAL CLAIMS DIVISION.

Months.	Claims—					Amount involved.	Letters—		Number of reports on application for—	
	Received.	Allowed.	Rejected.	Suspended.	Total disposed of.		Received.	Written.	Pensions.	Naval asylum.
1886.										
July	137	75	40	15	130	\$21,444.95	884	1,017	417	2
August	133	40	22	1	63	14,282.04	758	668	235	1
September	150	111	31	4	146	23,672.31	774	711	189	.....
October	235	74	79	57	210	15,961.68	790	808	329	5
November	120	67	80	11	158	14,132.98	802	800	256	.....
December	109	72	68	12	152	8,976.27	788	766	154	2
1887.										
January	185	66	79	27	179	29,674.47	915	804	195	.....
February	148	119	43	8	170	45,242.24	863	695	158	.....
March	153	111	74	9	194	41,667.70	1,171	886	220	1
April	141	88	85	2	175	21,965.43	915	839	196	1
May	119	72	45	39	156	20,761.95	423	674	158	.....
June	126	69	63	5	137	17,045.51	408	627	186	1
Total	1,756	964	709	190	1,863	274,767.53	9,471	9,235	2,693	13

Claims remaining on hand June 30, 1886 381

Claims remaining on hand June 30, 1887 274

Two hundred and thirty-six letters, difference between the number received and number written, did not require an answer.

Of the two hundred and seventy-four claims remaining on hand June 30, 1887, some have not been completed by the claimants, and a large number are awaiting the decision of the courts in cases which involve the same principles, and consequently can not be settled until a decision has been delivered by the courts.

PRIZE-MONEY, RECORD, AND FILES DIVISION.

Date.	Letters—		Claims—			Amount of prize-money paid.	Records.			
	Received.	Written.	Received.	Allowed.	Rejected.		Letters keyed in.	Letters keyed out.	Letters recorded.	Letters indexed.
1886.										
July	220	175	25	19	27	\$641.23	2,050	2,234	820	2,259
August	204	173	40	26	23	595.27	1,826	1,764	814	3,416
September	150	146	26	14	18	615.89	1,640	1,765	645	936
October	132	130	20	15	13	480.82	1,814	2,002	1,033	1,033
November	138	134	11	7	4	114.29	1,052	2,067	1,365	1,365
December	171	175	26	18	8	1,334.11	1,755	1,765	1,101	1,101
1887.										
January	193	187	23	13	10	830.47	1,886	1,745	1,024	1,024
February	220	218	30	20	10	908.67	1,920	1,631	1,041	1,041
March	221	208	30	22	8	521.99	2,222	1,924	1,454	2,008
April	173	173	24	16	8	414.00	1,896	1,786	1,328	1,328
May	168	145	14	7	7	143.52	1,785	1,615	1,349	1,349
June	182	136	21	18	3	1,227.06	1,635	1,803	1,551	1,551
Total	2,123	2,000	290	195	139	7,948.41	22,381	21,951	13,525	18,409

This division is charged also with the preparation of all reports and tabular statements called for by Congress and the Secretary of the Treasury; the preservation and the care of the files; keeping a record of the appointments, resignations, removals, and absences; the care and issuing of stationery used in the office, and the payment of salaries to employés.

NAVY PAY DIVISION.

Date.	Accounts received.	Accounts settled.	Letters received.	Letters written.	Amount involved.
1886.					
July	60	60	524	605	\$586, 889.
August	63	63	475	494	562, 912.
September	60	68	418	422	715, 938.
October	83	75	557	503	241, 100.
November	87	80	580	606	2, 162, 744.
December	68	81	449	387	446, 158. 10.
1887.					
January	55	65	399	304	1, 806, 041. 10.
February	56	51	424	264	1, 022, 446.
March	51	66	449	319	510, 304.
April	63	48	385	282	304, 207.
May	68	76	500	345	1, 553, 002.
June	92	115	481	372	1, 676, 928. 00.
Total	824	857	5, 650	4, 693	11, 735, 630. 10.

AMOUNTS PAID FOR ALLOTMENTS AT NAVY PAY OFFICES DURING FISCAL YEAR 1887.

Office.	Amount.
New York	\$200, 432. 75.
Washington	116, 214. 00.
Philadelphia	71, 862. 00.
Boston	69, 778. 00.
San Francisco	36, 679. 00.
Norfolk	27, 122. 00.
Baltimore	28, 458. 00.
Total	542, 064. 00.

Number of allotments running	1, 727
Number of allotments registered during fiscal year	1, 185
Number of allotments discontinued during fiscal year	1, 138
Number of allotments in which the limit of one-half pay is exceeded by permission of the Secretary of the Navy:	
Officers	25
Seamen	76
Total	101
Number of accounts on hand June 30, 1886	33
Number of accounts received during fiscal year 1887	824
Total	857
Number of accounts settled during fiscal year 1887	857
Number of accounts on hand June 30, 1887	None.
Number of cash vouchers examined during fiscal year 1887	55, 896

NUMBER OF NAVY PENSIONERS AND THE AMOUNT DISBURSED DURING THE FISCAL YEAR ENDING JUNE 30, 1887.

Pension agency.	Number of Navy invalid pensioners.	Number of Navy widow pensioners.	Number of children under sixteen years of age drawing pension.	Number of dependent relatives.	Number of minors.	Total.	Disbursements for the year ending June 30, 1887.
Boston	953	371	143	195	20	1,682	\$315,611.71
Chicago	544	163	66	79	10	862	188,369.80
New York city	673	278	65	90	5	1,129	193,271.19
Philadelphia	631	250	77	100	16	1,074	172,595.53
San Francisco	108	21	20	2	4	155	22,056.95
Washington	676	360	145	88	36	1,305	232,290.14
Total	3,585	1,443	516	563	91	6,198	1,124,105.28

The sum of \$1,382.79 was expended under section 4718 of the Revised Statutes to reimburse those who bore the expense of last sickness and burial of pensioners.

Number of Navy pension vouchers examined during the year, 20,546.

SETTLEMENTS ON CONTRACTS.

I feel it my duty to call your attention particularly to the prevailing method of the Navy Department in making payments on contracts.

For some years it has been the custom to require disbursing officers to pay out large sums of money on public bills, upon which no action can be taken by the accounting officers until the vouchers come before them in the quarterly returns of the paymaster, several months after the payments have been made.

In case the accounting officers should be of the opinion that the payment was illegal, there is nothing to be done except suspend the voucher and hold the disbursing officer responsible, and since he has paid this money upon the order of the Secretary of the Navy, it would be arbitrary and unreasonable to require that he be made to refund it.

The remedy, in my opinion, for this is contained in sections 236 and 277 of the Revised Statutes.

The former provides that "all claims and demands whatever by the United States, or against them, and all accounts whatever in which the United States are concerned, either as debtors or creditors, shall be settled and adjusted in the Department of the Treasury." The latter provides that "the Fourth Auditor shall receive and examine all accounts accruing in the Navy Department or relative thereto."

In view of the possible losses that may fall upon the Government from this system of payments, and the embarrassments to disbursing and accounting officers that must inevitably arise, and for the proper settlement of these accounts in accordance with the law as above quoted, I beg that such steps be taken as may seem to you to be proper, to have all demands for payments under contracts in the Navy presented to this office for settlement, and that payments by disbursing officers be restricted to necessary current expenses, such as pay of officers and men, supplies needed for immediate use, expenditures on shipboard, and purchases in foreign parts.

PROPERTY RETURNS.

In the last two annual reports from this Bureau attention was called to the necessity of having accounts of the public property of the Navy in the hands of officers of the Navy and Marine Corps rendered to the office for settlement.

In view of the increased appropriations for the construction of ships and fitting them out for service, the necessity for an accounting for property purchased is imperative.

DISTRIBUTION OF PUBLIC ACCOUNTS.

Your attention is called to the inequality existing in the distribution of public accounts amongst the Auditors.

Some of the Auditors have a large clerical force and are then unable to keep up their work without assistance from other Bureaus. It would seem that a distribution of the accounts according to the laws hereinafter referred to would be more in accordance with the evident intention of the law makers, and would best promote the interest of the Government.

This inequality was recognized and commented upon by Mr. James Guthrie, in his annual report as Secretary of the Treasury of December 4, 1854, in the following language:

It would facilitate the business and render less complicated the accounts of the Departments should all the accounts of the Interior Department be given to the Second Auditor, and all accounts of the War Department be given to the Third Auditor, as recommended in my former report.

And in his report December 3, 1855, he said:

In my former report the attention of Congress was called to the fact that the duties of the Auditors, under existing laws, were not properly divided; and inconveniences existed in the present distribution of duties * * * to the certain delay in the adjustment of accounts. This could be remedied by giving the Secretary of the Treasury authority, with the sanction of the President, to make the proper division and arrangement of business amongst the several Auditors and Comptrollers and report it to Congress.

As to the remedy suggested by Mr. Guthrie I would ask if it is not possible to accomplish the desired result without going to Congress. Does not the law establishing the offices of the Auditors define their duties and make a more equal distribution of the work?

In the act establishing the Treasury Department, approved September 2, 1789, section 5 provides—

That it shall be the duty of the Auditor to receive all public accounts, etc.

At that time, and until 1817, there was but one Auditor. "An act to provide for the prompt settlement of public accounts" was approved March 3, 1817, and section 4 of that act distributes the accounts amongst five Auditors. It gives to the First the accounts accruing in the Treasury Department. To the Second and Third the War Department. To the Fourth all accounts accruing in the Navy Department or relative thereto. To the Fifth all accounts accruing in or relative to the Department of State, the General Post-Office, and Indian Affairs, clearly showing it was the intention of the law to distribute as nearly as possible amongst the five Auditors all public accounts, and giving to every Department one Auditor.

Section 5 of the same act provides—

That it shall be the duties of the Auditors charged with the examination of the accounts of the War and Navy Departments to keep all the accounts of the receipts and expenditures of the public moneys advanced relative to those Departments, etc.

From a careful review of the laws establishing the Auditors' offices and defining their duties it would appear that the accounts have never been distributed according to the statute. In 1885, soon after assuming the duties of this Bureau, similar views were submitted by me to Secretary Manning, who referred the letter to the Solicitor for his opinion thereon.

The accounts in the various Departments are so distinct, and as each Department has its own disbursing officer, I do not think that the salaries of employes in other Departments than the Treasury can be construed to arise even technically in the Treasury.

With the same propriety all persons paid by appropriation bills, such as the Army and Navy officers, might be construed to arise in the Treasury. It may have been the settled rule since 1817, nevertheless that rule seems to be in violation of the statute defining the duties of the Auditor.

The disbursements on account of the Naval Observatory, Hydrographic Bureau, and Nautical Almanac should be audited by this office, as was the custom up to the end of the fiscal year 1882.

I trust that the foregoing suggestions will meet with your favorable consideration, and if you concur therein and feel that you have not the power to enforce them, that you recommend Congress to take such action as to you may appear proper.

I have the honor to be, sir, your obedient servant,

C. M. SHELLEY,
Auditor.

Hon. CHARLES S. FAIRCHILD,
Secretary of the Treasury.

REPORT OF THE FIFTH AUDITOR OF THE TREASURY.

TREASURY DEPARTMENT,
FIFTH AUDITOR'S OFFICE,
Washington, D. C., October 27, 1887.

SIR: In obedience to the request contained in your letter of July 23, 1887, to make a report to you of the transactions of this office during the past fiscal year, ended June 30, 1887, and of the present condition of the public business intrusted to my charge, I have the honor to report the performance of the following clerical work in this office during the year:

Accounts adjusted	19,229
Reports made to the First Comptroller.....	16,751
Vouchers examined	325,321
Amount involved in adjustments in footings.....	\$922,878,982.14
Reports copied	9,833
Letters written	4,786
Coupon books of internal-revenue stamps scheduled and counted ...	31,467
Letters copied by hand.....	441
Comptroller's certificates copied.....	7,722
Consular certificates to invoices, and debentures posted from returns of collectors of customs (sec. 4213, R. S.).....	336,299
Consular-fee reports tested	1,940
Pages of consular-fee reports tabulated.....	11,484
Drafts examined for payment.....	247

The financial results of the adjustments of the accounts are shown in detail in the eleven tables hereto appended, and lettered from A to I,

and in regard to which I beg leave to submit the following observations:

DIPLOMATIC AND CONSULAR DIVISION.

Diplomatic service.—The accounts of ministers and other office the diplomatic service, so far as they have been received, have been justed, showing (Table A) expenditures and passport fees for the year as follows:

Salaries of ministers and chargés d'affaires	\$275.4
Salaries of chargés d'affaires <i>ad interim</i>	21.7
Salaries of secretaries of legations	31.2
Salaries of interpreters of legations	10.0
Salary of clerk to legation in Spain	1.2
Contingent expenses, foreign missions	64.4
Loss on bills of exchange, diplomatic service	1.1
Total	405.3
Passport fees received and accounted for	4.8

The accounts for salaries of chargés d'affaires *ad interim*, which I received the action of this office, are in excess of the appropriation that object in the sum of \$1,784.21.

Consular service.—Accounts of consular officers have been adjusted showing expenses for this service and official fees collected, as follows (Tables B, C, D, and E):

Consular fees received for official services	\$950.6
Paid:	
Salaries, consular service	\$420,708.05
Salaries, consular officers not citizens	10,057.31
Salaries, consular clerks	12,281.31
Loss on bills of exchange	3,667.84
Pay of consular officers for services to American vessels	17,404.49
Compensation from fees (sections 1703, 1730, and 1733, Revised Statutes)	218,621.70
Office rent and clerk hire (section 1732, Revised Statutes)	7,432.49
Contingent expenses, United States consulates	143,765.83
Allowance for clerks at consulates	58,359.28
Expenses of prisons for American convicts	5,083.55
Salaries, interpreters to consulates in China, etc.	11,001.01
Salaries, marshals for consular courts	6,846.07
Expenses of interpreters and guards, etc.	2,968.50
Boat and crew at Hong-Kong and Osaka and Hiogo	735.53
	918.9
Excess of receipts over expenditures	31.7

It will be seen from the above statement that the consular service 1887 has been not only self-sustaining, but has paid a small surplus revenue to the Government.

The amount paid for "Salaries consular service," as reported \$708.05 in excess of the appropriation. Accounts yet to be received, when adjusted, will still add to the amount several thousand dollars, showing that the appropriation has been considerably exceeded this year, as was the case for 1886, and which is attributable to the same cause, namely: The payments made to consular officers for time receiving instructions, awaiting the receipt of exequatur, and making travel to and from their posts, authorized by section 1740 of the Revised Statutes, but not provided for in the appropriation, amounting, in 1887, to \$17,667.80.

I would respectfully suggest that the Secretary of State be requested to ask Congress to make an annual permanent appropriation to cover the payments to consular officers while receiving instructions, and

equatur, and making transit. The same should also be done in the case of diplomatic officers. By such appropriations the inconvenience to officers whose salaries are specifically provided for by law be avoided, of having to wait for a deficiency appropriation before their money has been applied to the payment of those extra services which were not appropriated for.

The amount of consular fees collected exceeds that of any previous year, and they were in kind, as follows:

certificates.....	\$359,454.72
for certificates.....	35,927.00
health.....	17,682.75
for certificates.....	16,768.00
rates of returned goods, packages, etc.....	5,964.50
fees.....	14,893.67
Total.....	950,690.64

In 1886 the fees were reported at \$881,569.79. An increase over the year is shown for 1887 of \$69,120.85, arising principally from the source from which came the addition of \$90,224.36 for 1886 over 1885 from the *certification of certificates to invoices*. This shows a considerable increase in the number of shipments of goods to this country.

Relief of seamen.—As shown in Tables F and G, accounts for relief and support of seamen were adjusted with the following results:

for food and lodging.....	\$6,598.42
for clothing.....	3,748.21
for medical aid.....	5,604.78
for passage to the United States (paid at Treasury).....	10,700.48
other expenses.....	5,086.60
Total disbursed for relief of seamen.....	31,738.49

of wages collected.....	256,425.17
for expenses collected.....	4,555.77
	260,980.94

and arrears of wages paid to seamen.....	\$247,140.44
received at the Treasury under act of June 26, 1884.....	182.86
	247,323.30

Balance of wages.....	13,657.64
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The above sum of \$13,657.64, representing wages of seamen, will be added to at least \$8,057.64 by vouchers yet to be received of payments made to seamen. This amount, then, \$8,057.64, will represent the seamen's own money which has been used for their support, and should be deducted from the total amount, \$31,738.49, shown above to have been expended for relief of seamen, in order to arrive at the actual outlay from the appropriation for those who were *destitute*. This gives \$23,680.85 as the actual expenditure for 1887.

The actual cost to the Government for the relief of *destitute* seamen in 1886, as shown by the exact figures on final adjustment, was \$3,442.

There were relieved during the year 959 *destitute* seamen, as against 1,000 in 1886—one-fourth less number of seamen, yet the cost to the Government was nearly the same. The average cost per seaman was \$5.35 for 1887 than for 1886. The additional cost is attributable to the increased allowance to steamers for the transportation of seamen to the United States, authorized by the act of June 19, 1886. The number of seamen brought to the United States was exactly the same for both years, being 593; while the cost of transportation was \$4,280.28 more in 1887 than in 1886, being \$10,700.48 in 1887 and \$6,420.20 in 1886.

Of the 959 seamen relieved, 551 were shipwrecked, and only 43 reported as deserters from their vessels. Medical assistance was vided for 170 men.

On the subject of *wages to seamen* it may be stated that consular officers sometimes send money which they have collected as wages to the Treasury on account of the sailors, instead of paying to them. Under the present system or custom such moneys are entered into the Treasury to the credit of the appropriation for "Relief and protection of American seamen," and when claim is made for them at the Treasury they are paid from the said appropriation. The claimants for these moneys sometimes fail to call for them until after the appropriation has lapsed according to law, and they are then subject to great delays in receiving their money, having to wait for Congressional action for supplying the fund. Moneys held by the Government in trust should be available to the owners at all times, and not subject to be passed into the surplus fund at the end of every two years, as is now the case.

It not unfrequently happens, also, that other moneys belonging to American citizens are collected and sent to the Treasury by consular officers abroad, in trust for the legal owners, such as the proceeds of salvages and of other property.

Provision was made by section 4584 of the Revised Statutes for the retaining of *one-third* of the three month's extra wages collectible under the law then existing, for the purpose of creating a fund for the maintenance and passage to the United States of destitute American seamen, under which provision the practice arose of covering such amounts, when paid in by consular officers, to the credit of the appropriation for relief of seamen, insomuch augmenting the same, and from this practice came the custom of covering into the same appropriation the moneys received in trust for seamen and others. The ground for this custom now having been taken away by the repeal of the law requiring the collection of *three months'* extra wages, the *one-third* no longer accruing to the Government, I would respectfully recommend that Congress be requested to provide for the opening of a trust fund account, into which the wages of seamen and the moneys of other persons (not deceased) received in trust may be covered, and out of which they may be paid whenever legal claim thereto shall be established. Section 1709 of the Revised Statutes provides for such a fund for moneys belonging to deceased American citizens.

Other expenses of the foreign service.—During the year other accounts relating to the foreign service have been adjusted as follows :

Salaries and expenses, Court of Commissioners of Alabama Claims.....	\$3,858.94
Payment of judgments, Court of Alabama Claims (second class)	5,739,495.41
International Bureau of Weights and Measures, 1887	1,951.48
Scientific Commission of Electricians at Philadelphia, Pa.	300.00
Transporting remains of ministers and consuls to their homes for interment	516.67
Refunding penalties or charges erroneously exacted	451.73
Rescuing shipwrecked American seamen, 1887	573.25
Bringing home criminals, 1887	1,736.90
Foreign hospital at Panama, 1887	500.00
Allowance to widows or heirs of diplomatic or consular officers who die abroad	979.61
Annual expenses Cape Spartel light, coast of Morocco, 1887	291.06
Emergencies arising in the diplomatic and consular service	1,052.23
Steam-launch for legation and consulate at Constantinople, 1887	1,124.28
Rent of court-house and jail in Japan, 1887	3,400.00
Buildings and grounds for legation in China, 1887	1,234.00
Payment to Lizzie Maynardier Phelps, widow of Seth Ledyard Phelps, late minister to Peru, act August 3, 1886	10,000.00

of William Schuchardt, private act No. 254.....	\$750.00
of James M. Hagar, act February 21, 1887	1,112.73

Disbursing clerk's accounts.—The following accounts have been rendered by F. J. Kieckhoefer, the disbursing clerk of the Department of State, and adjusted, namely :

Disbursing expenses, foreign missions, 1883, \$276.13; 1887, \$11,323.10....	\$11,604.23
Disbursing expenses United States consulates, 1885, \$92.09; 1887, \$9,766.65.	9,858.74
Disbursing on of consular and other commercial reports, Department of State, \$100.90; 1887, \$16,736.22	17,037.12
Disbursing for shipwrecked American seamen, 1887	1,914.00
Disbursing for expenses arising in the diplomatic and consular service	16,045.29
Disbursing for evidence relating to French spoliation claims	39.27
Disbursing for national remonetization of silver	1,500.00
Disbursing for sending remains of ministers and consuls to their homes for interment	62.00
Disbursing under the neutrality act, 1887	668.90
Disbursing for disbursements and expenses Court of Commissioners of Alabama Claims	3,066.25
Disbursing for arbitration commission	4,077.44
Disbursing for losses sustained by Chinese subjects at Rock Springs, Wy-	147,748.74

Accounts for prior years.—Diplomatic and consular accounts not heretofore reported were received or perfected during the year, and have been listed as follows :

Disbursing for ministers, 1885, \$4,250; 1886, \$16,758.37	\$21,008.37
Disbursing for secretaries of legations, 1885	43.96
Disbursing for consular service, 1885, 1,487.02; 1886, \$5,778.03	7,265.05
Disbursing for interpreters to consulates in China, 1885	1,032.66
Disbursing for interpreters to legations, 1885, \$124.63; 1886, \$1,000	1,124.63
Disbursing for expenses, foreign missions, 1879, \$275; 1880, \$369.50; 1883, 1884, \$28.50; 1885, \$7,760.32; 1886, \$3,298.68	12,314.55
Disbursing for expenses, United States consulates, 1877, \$15.52; 1884, \$110; 1885, \$41.76; 1886, \$3,694.16	4,861.44
Disbursing for bills of exchange, diplomatic service, 1885, \$32.08; 1886, \$311.45	343.53
Disbursing for bills of exchange, consular service, 1875, \$25.73; 1885, \$83.56; 1886, \$1.44	208.73
Disbursing for consular officers for services to American vessels and seamen, 1885, 1886, \$3,374.38	3,915.00
Disbursing for protection of American seamen, 1883, \$100; 1884, \$408.82; 1885, \$1.22; 1886, \$1,227.45	1,907.49
Disbursing for clerks at consulates, 1883, \$610.99; 1886, \$1,163	1,773.99
Disbursing for expenses of prisons for American convicts, 1885	292.41
Disbursing for some criminals, 1884, \$264.62; 1886, \$19.50	284.12
Disbursing for shipwrecked American seamen, 1886	647.35
Disbursing for expenses of interpreters and guards, etc., 1886	125.00
Disbursing for each for legation and consulate at Constantinople, 1886	352.00
Disbursing for land grounds for legation in China, 1885, \$1,296; 1886, \$1,908	3,204.00
Disbursing for art-house and jail in Japan, 1886	3,400.00
Disbursing for disbursements to umpires of United States and Spanish Claims Commission	930.00
Disbursing for United States and Spanish Claims Commission	3,650.03
Disbursing for fees adjusted, 1885, \$1,696.50; 1886, \$2,195.48	3,891.98

Disbursing for bankers' accounts.—Accounts adjusted during the year of Messrs. Brown, Shipley & Co., bankers of the United States at London, show disbursements aggregating \$273,607.35, and receipts of consular officers of fees amounting to \$288,186.01, and of wages of \$23.64. The disbursements were as follows :

Disbursing for expenses United States consulates, 1886, \$326.27; 1887, \$526.27 ..	\$852.54
Disbursing for consular service, 1886, \$1,773.13; 1887, \$2,306.73	4,079.86
Disbursing for secretaries of legations, 1886, \$5,843.61; 1887, \$22,693.62	28,537.23
Disbursing for expenses foreign missions, 1886, \$3,043.69; 1887, \$31,220.08 ...	34,263.77
Disbursing for ministers, 1885, \$721.15; 1886, \$23,729.54; 1887, \$159,266.97 ...	188,717.66
Disbursing for interpreters to legations, 1887	7,956.16
Disbursing for the spread of epidemic diseases	487.65
Disbursing for charges d'affaires <i>ad interim</i> , 1887	1,016.61
Disbursing for expenses of interpreters, guards, etc., in Turkish dominions, 1887 ..	252.50
Disbursing for evidence relating to French spoliation claims	7,443.37

Estates of decedents trust fund.—Accounts of this fund (sec. 1709, Rev. Stats.) were adjusted, showing the following sums paid over to the legal representatives of citizens of the United States dying abroad, viz:

Estate of James A. Gregory	\$27.24
Estate of Leopold Verdella	202.25
Estate of Henry Somerville	64.90
Estate of Henry Howarth	261.07
Estate of Lewis S. Chase	70.35
Estate of James N. Cole	157.65
Estate of Philip Barnett	1,560.02
Estate of Maximilian Taubles	164.02
Estate of William K. Aiken	39.84
Estate of Frederick Groeper	13.18

2,291.32

INTERNAL-REVENUE DIVISION.

The total collections of internal revenue during the fiscal year 1887, as shown by the adjustments of collectors' accounts and exhibited in detail in Table H, amounted to \$118,932,978.91. Included in this amount \$3,399.75 belongs to the collections of previous years.

The accounts of collectors of internal revenue, as adjusted for the fiscal year, aggregate \$3,637,995.66, inclusive of amounts allowed storekeepers and gaugers. These expenses in detail are given in Table I.

Of this total expense, the sum of \$3,495.49 belongs to previous fiscal years, being commissions on tax-paid spirit stamps sold.

The following exhibit shows, by States, for what these expenses were incurred:

District.	Compensation of collector.		Rent, fuel, and lights.	Stationery and other expenses.	Compensation of storekeepers.	Compensation of gaugers.	Total expense of collecting.
	Salary.	Deputies and clerks.					
Alabama	\$2,750.00	\$12,536.67	.....	\$131.71	\$268.00	\$1,650.18	\$18,036.56
Arkansas	3,082.71	11,581.60	.....	189.44	11,097.50	1,572.66	27,523.91
California	8,124.69	47,100.02	\$1,280.00	1,157.63	15,392.00	28,048.51	101,192.83
Colorado	3,000.00	10,603.65	1,000.00	130.76	.....	1,612.19	16,352.60
Connecticut	4,121.11	16,118.51	28.00	255.24	2,504.00	4,875.35	27,062.21
Delaware	3,098.13	7,157.14	288.00	55.37	730.00	1,376.59	12,765.28
Florida	3,125.00	8,746.33	587.71	115.72	.....	.....	12,574.76
Georgia	3,500.00	39,427.15	.....	353.13	29,402.00	4,908.51	77,590.79
Illinois	25,462.75	85,468.32	2,344.09	1,667.67	95,003.00	93,434.64	303,338.37
Indiana	12,003.95	34,881.61	1,204.75	669.31	29,843.00	23,346.31	102,008.93
Iowa	9,875.09	23,714.34	1,350.14	522.08	8,640.00	7,324.21	51,425.77
Kansas	3,006.40	13,196.78	.....	192.84	1,234.50	103.49	17,732.51
Kentucky	22,500.00	105,496.87	2,797.06	2,437.79	386,732.00	139,531.29	659,702.61
Louisiana	3,625.00	20,155.35	.....	149.61	.....	3,964.24	27,894.29
Maine	2,375.00	5,064.23	.....	171.29	.....	.....	7,610.52
Maryland	4,500.00	38,406.08	700.00	464.09	26,497.50	24,724.98	105,298.66
Massachusetts	8,693.56	31,117.92	521.75	667.45	24,568.00	18,812.75	83,734.43
Michigan	7,375.00	27,720.92	1,451.08	309.19	.....	2,149.66	39,605.85
Minnesota	3,750.00	15,028.46	.....	185.30	.....	1,744.05	20,707.81
Mississippi	2,755.58	9,978.22	.....	101.37	.....	1,117.55	12,052.72
Missouri	12,509.11	53,034.91	550.00	1,108.13	94,178.00	20,642.16	131,712.31
Montana	3,000.00	11,541.65	693.18	162.84	.....	147.86	15,845.53
Nebraska	4,500.00	17,942.85	.....	282.30	9,540.00	7,639.22	29,904.48
Nevada	2,750.00	6,236.55	699.00	206.49	.....	718.03	10,610.07
New Hampshire	3,505.18	4,583.80	.....	151.15	1,388.00	827.37	10,455.49
New Jersey	12,185.86	42,203.23	990.00	601.06	3,800.00	7,679.33	67,999.47
New Mexico	2,750.00	8,144.98	689.15	265.34	.....	954.06	12,803.51
New York	31,539.96	176,294.83	16,176.13	2,550.90	11,088.00	58,556.83	296,296.65
North Carolina	12,979.55	78,961.09	1,212.50	921.47	131,800.50	21,441.92	247,838.03
Ohio	21,655.48	83,142.65	2,767.80	1,778.51	80,739.00	95,036.26	283,109.79
Oregon	3,029.23	10,992.84	.....	313.65	839.00	1,146.87	16,321.47
Pennsylvania	24,672.68	129,650.20	3,615.95	2,347.34	100,841.50	61,989.94	323,097.61
Rhode Island	3,000.41	7,408.48	.....	261.07	.....	481.09	11,151.05
South Carolina	3,137.62	14,964.58	.....	114.28	7,515.50	1,219.14	20,657.07
Tennessee	7,581.37	38,339.26	.....	784.78	45,219.50	13,316.52	105,241.43
Texas	7,672.41	28,543.93	1,290.70	473.40	2,521.00	3,194.23	48,605.67
Vermont	2,131.57	4,017.56	172.92	60.11	.....	.....	6,382.16
Virginia	12,097.40	86,978.21	1,359.45	1,556.86	24,137.00	30,212.03	157,180.95
West Virginia	4,831.00	17,769.19	444.19	473.45	4,544.00	7,418.53	25,481.28
Wisconsin	13,216.19	53,576.37	831.13	648.64	11,709.00	10,149.82	79,131.13
Total	325,859.80	1,418,457.25	44,922.68	25,169.06	1,112,518.50	711,068.37	3,637,995.66

MISCELLANEOUS DIVISION.

To this division are assigned for settlement all miscellaneous internal-revenue accounts, including salaries and expenses of agents, surveyors of distilleries, fees and expenses of gaugers, stamp agents' accounts, counsel fees, drawbacks, taxes refunded, redemption of stamps, accounts for the manufacture of paper, and for the salaries of the office of the Commissioner of Internal Revenue, also accounts of the Census Office, Smithsonian Institution, and National Museum, contingent expenses of the Post-Office Department, and sundry accounts of the Department of State and the Patent Office.

Agents' accounts.—The salaries and expenses of internal-revenue agents for the year are as follows:

Name.	Per diem.	Salary.	Expenses.			Total.
			Trans- portation.	Subsist- ence.	Other expenses.	
James S. Battle.....	\$7.00	\$2,191.00	\$345.31	\$1,044.00	\$40.66	\$3,620.97
A. H. Brooks.....	7.00	2,198.00	313.92	541.60	233.81	3,287.33
Ed. M. Brown.....	7.00	2,191.00	289.83	1,087.50	34.41	3,602.74
Thomas B. Buakirk.....	{ 6.00 } { 7.00 }	547.00	55.20	294.00	17.80	914.00
G. Washington Carr.....	6.00	1,830.00	359.76	1,023.00	68.29	3,281.05
W. H. Chapman.....	7.00	2,191.00	355.95	1,017.00	81.36	3,594.41
George B. Clark.....	7.00	2,205.00	1,123.52	1,125.00	158.02	4,611.54
Robert P. Cole.....	7.00	1,050.00	279.91	463.50	60.25	1,853.66
B. L. Cromwell.....	{ 6.00 } { 7.00 }	1,401.00	330.90	693.00	18.70	2,452.60
H. P. Dunlap.....	{ 6.00 } { 7.00 }	1,003.00	295.80	528.00	28.95	1,855.75
J. H. Hale.....	7.00	2,030.00	143.60	985.50	76.43	3,235.53
J. H. Harlbart.....	{ 6.00 } { 7.00 }	984.00	114.57	459.00	14.52	1,572.09
Godfrey Jaeger.....	7.00	2,191.00	818.37	963.00	97.68	4,070.05
Horace Kellogg.....	7.00	2,135.00	529.70	1,053.75	74.76	3,793.21
William King.....	7.00	2,184.00	945.76	1,029.75	90.09	4,240.60
Sanford Kirkpatrick.....	{ 6.00 } { 7.00 }	960.00	271.21	501.00	10.10	1,742.31
James E. Larkin.....	7.00	735.00	87.12	369.00	26.16	1,217.28
Wolcott Lay.....	7.00	1,183.00	538.40	582.00	81.18	2,384.58
John Lofland.....	7.00	2,093.00	428.10	1,035.00	54.40	3,610.50
J. B. Marvin.....	7.00	1,162.00	556.01	546.00	59.47	2,323.48
R. F. Morey.....	7.00	1,275.00	548.30	561.00	54.74	2,439.04
Stanley Plummer.....	7.00	1,127.00	290.93	567.00	68.94	2,053.87
H. B. Rigg.....	{ 6.00 } { 7.00 }	972.00	265.75	528.00	35.20	1,800.95
F. D. Sewall.....	10.00	3,000.00	381.27	264.00	20.27	3,671.54
William Somerville.....	7.00	2,170.00	711.35	966.00	51.14	3,898.49
L. A. Thrasher.....	7.00	672.00	238.24	285.00	15.15	1,210.39
John Webb, jr.....	7.00	931.00	186.51	378.00	16.90	1,512.41
		42,611.00	10,813.39	18,880.60	1,545.38	73,850.37
Stationery furnished revenue agents.....						213.21
Transportation over Pacific railroads under orders from Treasury Department.....						228.37
Total.....						74,291.95

Stamp accounts.—The accounts of the Commissioner of Internal Revenue for distilled spirit and other stamps are as follows:

DISTILLED-SPIRIT STAMPS.

Dr.				Cr.
To stamps on hand June 30, 1886..	\$30,282,880.00	By stamps sent to collectors.....	\$67,052,735.00	
To stamps received from printers..	67,779,450.00	By stamps destroyed by committee	388.80	
To stamps returned by collectors..	486,685.00	By stamps on hand June 30, 1887..	31,407,260.00	
To stamps received for redemption.	388.80			
	98,550,403.80			98,550,403.80

SPECIAL-TAX STAMPS.

To stamps on hand June 30, 1886..	\$1,442,508.00	By stamps sent to collectors.....	\$10,818,414.00
To stamps received from printers..	13,140,112.00	By stamps destroyed by committee	2,206,494.00
To stamps returned for redemption..	911,032.00	By stamps on hand June 30, 1887..	2,408,764.00
	15,493,672.00		15,493,672.00

BEER STAMPS.

To stamps on hand June 30, 1886..	\$3,628,000.00	By stamps sent to collectors.....	\$23,218,730.00
To stamps received from printers..	24,097,500.00	By stamps destroyed by committee	1,408.61
To stamps returned for redemption..	1,394.44	By stamps on hand June 30, 1887..	4,508,070.00
To stamps returned by collectors..	414.17		
	27,728,208.61		27,728,208.61

STAMPS FOR TOBACCO, SNUFF, AND CIGARS.

To stamps on hand June 30, 1886..	\$8,141,142.69	By stamps sent to collectors.....	\$32,462,999.45
To stamps received from printers..	33,035,870.00	By stamps destroyed by committee	3,850.57
To stamps returned by collectors..	86,113.10	By stamps on hand June 30, 1887..	6,796,741.12
To stamps received for redemption..	465.29		
	39,263,591.98		39,263,591.98

STAMPED-FOIL WRAPPERS.

To wrappers received from printer..	\$163,671.16	By wrappers sent to collectors....	\$163,671.16
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DOCUMENTARY AND PROPRIETARY STAMPS.

To stamps on hand June 30, 1886..	\$5,412.38	By amount of cash deposited.....	\$4.35
	5,412.38	By stamps on hand June 30, 1887..	5,408.03
			5,412.38

OLEOMARGARINE STAMPS.

To stamps received from printers..	\$1,401,920.00	By stamps sent to collectors.....	\$860,700.00
To stamps returned by collectors..	48,424.00	By stamps destroyed by committee	1,362.14
To stamps returned for redemption..	1,362.14	By stamps on hand June 30, 1887..	584,644.00
	1,446,706.14		1,446,706.14

Miscellaneous expenses.—The following sums embrace payments made by collectors of internal revenue and revenue agents for the detection of frauds upon the revenue; disbursements made by T. J. Hobbs, disbursing clerk, on account of the appropriation for "paper for internal-revenue stamps," and for "expenses under the oleomargarine act;" also other expenses incident to the collection of the internal revenue:

Salary	\$26,512.67
Traveling expenses	8,784.24
Expenses (incidental)	13,008.56
Stationery	14,850.67
Telegrams	611.86
Expressage	4,592.50
Counsel fees and expenses.....	3,055.00
Rewards	2,562.31
Surveyors of distilleries	3,053.94
Salaries in office of the Commissioner of Internal Revenue	250,720.84
Salaries in office of the Commissioner of Internal Revenue (reimbursable)	2,475.05
Fees and expenses of gaugers prior to July 1, 1886.....	1,390.60
Fees and expenses of gangers.....	709,677.68
Paper for stamps (Fairchild Paper Company)	42,079.62

An adjustment of the accounts of six stamp agents shows a deposit of \$42,218.33.

Four hundred and eighty-eight claims for the redemption of stamps, amounting to \$19,633.14, were settled during the year, from which \$98.19 were discounted, leaving \$19,534.95 actually paid.

By the last annual report of this office, for 1886, it appeared the Secretary of the Treasury had on deposit to his credit, on account of "fines, penalties, and forfeitures" (special-deposit account No. 1), \$35,129.85.

During the year \$236,463.36 have been deposited and \$224,763.67 disbursed, leaving a balance to his credit January 1, 1887, of \$46,829.51.

The balance to his credit January 1, 1886, on account of "offers in compromise" (special-deposit account No. 5), was \$13,798.33. During the year \$98,222.83 were deposited and \$96,179.48 disbursed, leaving a balance to his credit January 1, 1887, of \$15,841.68.

Accounts were adjusted for the following sums refunded: Taxes erroneously assessed and collected, \$76,811.37; drawback on merchandise exported, \$35,173.98, and surplus proceeds of lands sold for taxes in the late insurrectionary States, \$818.78.

Moneys refunded on lands sold for taxes in the late insurrectionary States amount to \$780.20, and moneys erroneously collected under the direct-tax laws, \$103.92.

Accounts have been adjusted with the States of Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, Tennessee, Texas, and Wisconsin, on account of direct tax imposed by the act of August 5, 1861.

The disbursements by George Waterhouse, chairman of the South Carolina free-school-fund commissioners, amounted to \$1,900.

Disbursing clerk's accounts.—Accounts rendered by T. F. Kieckhoefer, disbursing clerk Department of State, have been adjusted as follows:

Lithographing, 1887.....	\$1,200.00
Editing, publishing, and distributing Revised and Annual Statutes.....	6,372.83
Proof-reading, 1886, \$28.33; 1887, \$1,200.....	1,228.33
Books and maps, 1887.....	2,000.00
Stationery, furniture, etc., 1887.....	4,354.19
Transmission of certain books and mementoes to National Lincoln Monument Association of Springfield, Ill.....	82.18
Monument to Baron DeKalb at Annapolis, Md.....	10,000.00
Statue of Liberty Enlightening the World.....	41,153.35
Monument to Thomas Jefferson at Monticello, Va.....	19.04
Medal to John F. Slater, of Connecticut.....	100.00

Accounts rendered by George W. Evans, disbursing clerk Department of the Interior, have been adjusted as follows:

Preservation of collections, National Museum (Armory building).....	55.90
Preservation of collections, National Museum, 1885, \$1.50; 1885 and 1886, \$52.40; 1886, \$2,471.68; 1887, \$100,508.83.....	103,034.41
Scientific library, Patent Office, 1886, \$2.92; 1887, \$2,951.05.....	2,953.95
Photolithographing, Patent Office, 1886, \$7,462.94; 1887, \$76,132.53.....	83,595.47
Furniture and fixtures, National Museum, 1886, \$1,752.94; 1887, \$37,188.66.....	38,941.60
Official Gazette, Patent Office, 1887.....	41,839.00
Heating and lighting National Museum, 1887.....	10,608.27
Public use of inventions and defending suits, Patent Office.....	203.11

Accounts of Perry C. Smith, disbursing clerk Post-Office Department, have been adjusted as follows:

Carpets, 1886, \$1,049.81; 1887, \$2,496.86.....	\$3,546.67
Miscellaneous items, 1886, \$791.11; 1887, \$8,376.76.....	9,167.87
Sales of post-route maps, 1887.....	2,171.99
Telegraphing, 1886, \$371.69; 1887, \$1,773.29.....	2,144.80
Rent, 1886, \$375; 1887, \$14,000.....	14,375.00
Horses and wagons, 1886, \$42.40; 1887, \$1,237.80.....	1,280.20
Publication of post-route maps, 1886, \$2,912.44; 1887, \$16,631.89.....	19,544.33
Gas, 1886, \$193.65; 1887, \$3,996.40.....	4,190.05
Publication of Official Postal Guide, 1886, \$620; 1887, \$17,874.02.....	18,494.02
Furniture, 1886, \$281.55; 1887, \$2,068.58.....	2,350.13
Postage, 1887.....	377.50
Fuel, 1886, \$239.69; 1887, \$6,711.95.....	7,001.64
Painting, 1886, \$410.27; 1887, \$2,859.71.....	3,269.98
Hardware, 1886, \$665.19; 1887, \$776.23.....	1,441.42
Stationery, 1886, \$945.80; 1887, \$7,470.02.....	8,415.82
Plumbing and gas fixtures, 1886, \$365.70; 1887, \$1,792.23.....	2,157.93

Other accounts rendered by disbursing clerks and others have been adjusted as follows :

International exchanges, Smithsonian Institution, 1887, rendered by Thomas J. Hobbs	\$10,000.
Statue of Liberty Enlightening the World, rendered by J. M. Schofield..	11,994.
Expenses of Tenth Census, rendered by estate of Richard Joseph	11,330.
Preservation of collections, National Museum (freight charges by railways)	174.
Expenses of Tenth Census, rendered by G. B. Merriam	54.
Expenses of Eighth Census, rendered by Wm. T. McVey	61.
Editing, publishing, and distributing Revised and Annual Statutes (freight charges by railways)	6.

The business of the Bureau was considerably in excess of ordinary years, mainly on account of the settlement of nine thousand one hundred and seventy-six Alabama judgments. A number of the clerks, zealous to keep the work up, have given many extra hours of labor to that purpose, thereby insuring a prompt dispatch of the business of the office.

The work relating to the consular service is materially increased by reason of the growth of that service and the requirements incident to new legislation.

I have the honor to be, very respectfully, your obedient servant,

ANTH. EICKHOFF,
Fifth Auditor.

Hon. CHARLES S. FAIRCHILD,
Secretary of the Treasury.

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REPORT OF THE AUDITOR OF THE TREASURY FOR THE POST-OFFICE DEPARTMENT.

OFFICE OF THE AUDITOR OF THE TREASURY
FOR THE POST-OFFICE DEPARTMENT,
Washington, D. C., November 15, 1887.

SIR: I have the honor to submit, herewith, the report of the business operations of this office for the fiscal year ended June 30, 1887.

The gratifying increase in the business and receipts of the Post-Office Department caused a corresponding increase in the work of this office; but it gives me pleasure to report that not only has the current work been disposed of, but, in addition to that, the millions of money-orders and postal notes issued and paid in the years prior to 1885 have been assorted, numbered, and filed in the archives.

The investigation of the quarterly returns of those postmasters guilty of making false reports of cancellations has steadily progressed during the year with good results to the Treasury.

This has required the examination of thousands of returns, in many cases running back to 1878.

During the fiscal year more than \$100,000 has been charged back upon the accounts of postmasters, who made such fraudulent returns, and in many cases the money has already been collected, and in the others it is in process of collection.

The business of the office has been transacted under many difficulties, resulting from a lack of a building adapted to the work of the Bureau. The force is scattered in three different buildings, in no one of which is there sufficient space to accommodate either the force engaged upon

the postal work or that engaged upon the work of the money-order branch.

Two of these buildings afford only ordinary protection from fire; while of necessity, records containing the money-order accounts of thousands of postmasters and involving millions of dollars, have to be stored therein.

The certainty of the steady increase of the work of the Post-Office Department renders the increase of the force employed in auditing the accounts of that Department equally certain. Proper consideration for the health and comfort of the clerical force of this Bureau, due regard for the safety of the Government records and accounts, the necessity for prompt, accurate, and systematic transaction of the business of this office, all urge me to request that steps be taken to provide a building suited to the work of the office.

Very respectfully,

D. McCONVILLE,
Sixth Auditor.

HON. CHARLES S. FAIRCHILD,
Secretary of the Treasury.

REPORT OF THE REGISTER OF THE TREASURY.

TREASURY DEPARTMENT,
REGISTER'S OFFICE,
Washington, D. C., October 31, 1887.

SIR: Concerning the operations of this Bureau for the last fiscal year, I respectfully report to you:

That in fulfillment of the duties imposed upon this office by United States Revised Statutes, section 313 and following, and by the various acts of Congress authorizing loans, we have dispatched current work and undertaken ameliorations as hereinafter detailed.

We have been unable to accomplish all that is desirable for symmetrical closure of the accounts of the Department for lack of Departmental orders, legislation, or mandatory law, as specified in my Annual Report for 1885, pages 6 and 7, viz:

"To make clear and adequate to the demands of the future, the debtor and creditor statements require that certain entries should be made regarding the naval pension fund, surplus revenue deposits with certain States, railway bond subsidies, amounts of Revolutionary war debt, purchase of Texas, and sundry other accounts, making \$116,105,031.45, which have been examined and determined. (Finance Report of 1876, page 13.)

It is respectfully suggested that, under Sec. 248 U. S. Revised Statutes, ample power has been conferred on the Secretary of the Treasury to authorize and direct to be made entries to correct all errors in public accounts growing out of wrong classification, erroneous entries and neglects to make them at proper times, which do not involve any expenditure of money not authorized by law."

Upon the exercise of this power for the corrections of our account-keeping in the matters above named, your predecessor in office hesitated because his predecessors had not acted, and requested me to prepare a bill which should authorize and require the necessary exercise of power; and upon my suggestion that it should be worded so as to be simply mandatory, so that it would cast no doubt upon the meaning of the language used in conferring existing statutory powers, this bill was prepared, and submitted in a supplement to my Annual Report for 1886.

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ACCOUNTS OF POST-OFFICE DEPARTMENT.

It seems indispensable again to call attention to the anomaly in our system of account keeping in the Post-Office Department, which, under the provisions of section 236, United States Revised Statutes, come under the scrutiny of the Secretary of the Treasury.

(1) Of all the vast postal revenues, amounting to upwards of \$50,000,000, none is paid into the Treasury, under a system of accounting which requires all receipts and expenditures to be made by warrant. How can this anomaly be reconciled with existing requirements? Some reconciliation, or the repeal of such requirements of law and regulation seem imperative.

(2) The present movement of money of the Post-Office Department, outgoing and incoming, is over \$100,000,000, and constantly increasing. It amounts to nearly one-fifth of the Treasury business, and yet there is but one accounting officer responsible for the supervision of the entire business, while there are five Auditors and substantially four Comptrollers to supervise the rest of the business.

It would seem that good account-keeping and good business methods demand this to be remedied.

PRESERVATION OF FILES.

It has been brought to the Department's attention in each Annual Report since I have been Register, that our means of performing this duty are wholly inadequate to the necessities of the service. I renew this statement, with, if possible, increased emphasis.

Our rooms for storing files are twelve in number, six in the basement and six in the attic of the building. Of the six in the basement, three open on the south and three into the west hall of that floor. They contain 13,287 square feet of floor space, and 159,056 cubic feet of volume, and are filled with one hundred and eleven file cases, occupying 3,321 square feet of floor and 38,184 cubic feet of space.

The other six file rooms, if halls deserve to be included as rooms, are on the southwest quarter of the attic floor, and contain 6,665 square feet of floor, 52,379 cubic feet of volume, and pine-board shelving, called file-cases, numbering ninety, standing on 2,656 square feet of floor, and having 21,634 cubic feet of volume. All of these are full or waiting to be filled with files already on hand.

The only room, in all the twelve, that is fit for a Files-room, offering any reasonable security against fire, dust, dirt, and vermin, is File-room A on the basement floor, wherein the cases are of iron with iron shelving, and doors of the same material. But it contains only 23 cases out of 201 at the disposal of this Bureau.

Having made a special report on this matter to the committee recently appointed by the Secretary, I will only add to what is said above, that in all the 178 file-cases outside of File-room A, *not one* offers any of the guaranties for safe keeping of files demanded by the commonest dictates of business applicable to the archives of a great Government.

I therefore renew my recommendations made in previous reports:

(1) That the present files be examined and separated into those "likely" and those "unlikely" to be called for; that the latter be catalogued and divided into those which may be destroyed and which may be boxed and stored for further orders.

(2) That those "likely to be called for" be put into sheet-metal cases and file boxes, arranged and catalogued by each Bureau, so as to secure the greatest ease and certainty of reference.

(3) That steps be taken for timely provision for future file-rooms, of character suitable to meet speedily coming demands of the Department Service.

MONTHLY DEBT STATEMENT.

In the last annual report from this office it was stated that "since the Register's is the office of final record of all receipts and expenditures of the Government, it ought to be required to make the Monthly Debt Statement." The reasons given are, that being by law the final account keeper of the Government, necessarily having the material therefor, accuracy would be secured, apparently or really, discrepant Public Debt Statements avoided, and the necessity for explanations of such discrepancies to the inquiring business public, as has hitherto happened, would be removed.

This, appearing to be an improvement in our account-keeping methods, tending towards increased security in accuracy and unity of responsibility, is again brought to the honorable Secretary's notice.

It is also respectfully submitted that much needless duplication of work and some expense could be saved by assigning portions of the work in the divisions of the Secretary's Office to the Register's Bureau, with an increased efficiency and unity of responsibility.

The operations in the Register's Office for the fiscal year ending June 30, 1887, have been carried on by the Division of Receipts and Expenditures; the Division of Loans; the Division of Notes, Coupons, and Currency, and the Special Division of Interest, Premiums, and Expenses of the Public Debt.

The expenses of the Bureau appear in the table following, showing the annual appropriations and expenditures for the years 1884, 1885, 1886, and 1887, in the last columns of which it appears that the total appropriation for the last fiscal year was \$141,677.94, and the total expenditure for the year \$139,094.55.

TABLE A.—ANNUAL APPROPRIATIONS FOR THE SUPPORT OF THIS BUREAU FOR THE FISCAL YEARS 1884, 1885, 1886, AND 1887, THE PORTION OF THE SAME ACTUALLY SPENT, AND HOW THE EXPENDITURE WAS DISTRIBUTED AMONG THE DIVISIONS OF WORK.

	1883-'84.	1884-'85.	1885-'86.	1886-'87.
Appropriation	\$183,610.00	\$183,610.00	\$162,450.00	\$139,750.00 *1,927.94
Actual expenditure	181,990.87	178,274.01	150,889.78	141,677.94 139,094.55
Detailed distribution thereof:				
Register and Assistant Register's Office	10,184.67	10,129.97	11,153.89	11,244.20
Receipts and Expenditures	59,921.79	60,500.47	55,180.20	56,829.32
Loans	42,551.41	35,675.45	27,251.95	23,469.87
Note and Coupon	33,626.41	37,355.32	53,001.85	40,671.22
Currency (consolidated October 1, 1885)	20,358.61	15,496.02		
Tonnage	7,790.60	9,978.70		
Interest and Expenses on Loans			2,047.22	6,745.65
Details to other Bureaus	7,557.38	9,157.99	2,182.67	134.20
Total expended	181,990.87	178,274.01	150,889.78	139,094.55

*The appropriation for the year 1885-'86 was extended to cover July, 1886, being an increase of \$1,927.94 over \$139,750, the rate for the remainder of the year.

Tables B, C, D, and E exhibit in detail the distribution of these appropriations and the actual outlay in each of the aforementioned years.

DIVISION OF RECEIPTS AND EXPENDITURES.

This division had during the year 41.77 employés, and has—

(1) To keep account of all receipts and expenditures of public moneys and of debts due to and from the United States.

(2) To receive from the Commissioner of Customs and First Comptroller of the Treasury the accounts which shall have been finally adjusted, with their vouchers, certificates, etc., and to preserve the same.

(3) To record all warrants for receipt of moneys into or payments from the Treasury and to certify the same thereon, except those drawn by the Postmaster-General and those drawn by the Secretary of the Treasury upon requisitions of the Secretaries of War, the Interior (proper), and of the Navy.

(4) To transmit to the Treasury copies of the certificates of balances of accounts adjusted.

(5) To furnish to the proper accounting officers copies of all warrants covering proceeds of Government property where the same may be necessary in the settlement of accounts in their respective offices.

The following shows the relative forces employed in this division during the past two fiscal years:

Years.	No. of employés.	Amount of pay-roll.
1886-'87	41.77	\$56,829.32
1886-'86	40.81	55,189.20
Increase .....	.96	1,640.12

Details of its principal work appear in the subjoined statements, giving—

(1) The receipts and expenditures of the Government for the fiscal year ended June 30, 1887.

(2) Summary of current work for the fiscal year.

(3) Heads of extra work done during the fiscal year.

To which should be added betterments that have been found possible in regularizing the storage of files on the attic floor.

TABLE G.—CONDITION OF THE UNITED STATES TREASURY, GIVING THE RECEIPTS, EXPENDITURES, AND BALANCE, FISCAL YEAR ENDING JUNE 30, 1887, AS SHOWN BY THE BOOKS OF THIS DIVISION.

Balance in Treasury June 30, 1886 (including \$28,101,644.91 on deposit with the States under act June 23, 1836, and \$1,419,734.44 due from United States mints, depositories, and sub-treasuries on account of defaults and deficits.....)	\$326,848,755.46
Receipts during fiscal year 1887:	
Customs	\$217,286,693.13
Internal revenue.....	118,823,391.22
Sales of public lands	9,254,286.42
Direct tax (State tax act, August 5, 1861)	32,892.05
Revenues, District of Columbia	2,377,060.18
Tax on circulation, etc., national banks.....	2,385,851.18
Proceeds of Government property	262,832.32
Repayment of interest by Pacific Railroads.....	914,793.13
Sinking fund, Pacific Railroads	1,364,435.47
Consular fees	609,377.71
Immigrant fund.....	258,402.50
Custom-house fees	748,014.91
Customs fines, penalties, and forfeitures	160,205.41
Customs emolument fees.....	144,817.53
Interest on Indian trust-fund stocks.....	25,735.34
Proceeds sales of Indian lands	1,479,028.81
Reimbursements on account of Indian appropriations.....	339,781.61
Deposits, expenses surveying public lands.....	94,289.76
Registers' and receivers' fees.....	1,540,603.35

REPORT OF THE SECRETARY OF THE TREASURY.

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ts during fiscal year 1887—Continued.

as on letters patent	11, 151, 668. 40
e old court-house and post-office, Philadelphia	412, 702. 95
e old Bridewell Dock, Chicago, Ill	205, 000. 00
fits on coinage, deductions, and assays	8, 020, 252. 83
x on seal-skins	317, 452. 75
ldiers' Home permanent fund	1, 226, 259. 47
le ordinance material, powder, and projectiles	71, 734. 22
predations on public lands	41, 456. 99
use of United States notes (legal tender)	74, 068, 000. 00
ene of certificates of deposit	28, 480, 600. 00
ene of silver certificates	51, 852, 000. 00
ene of funded loan of 1907	40, 900. 00
enumerated	995, 639. 91
	<hr/>
	\$525, 844, 177. 66

Total assets 1, 052, 602, 933. 13

nditures during fiscal year 1887:

ustoms	\$23, 795, 933. 12
internal revenue	4, 070, 126. 95
Diplomatic	7, 104, 490. 47
Quarterly salaries	603, 417. 47
Treasury	88, 342, 337. 73
Judiciary	3, 537, 394. 90
Interior civil	7, 821, 225. 31
War Department	38, 561, 025. 85
Navy Department	15, 141, 126. 80
Interior Department, Indians	0, 194, 522. 69
Interior Department, pensions	75, 029, 101. 79
Interest on public debt	43, 878, 176. 53
Interest on public debt, bonds issued to Pacific railroad com- panies	3, 863, 400. 72
Redemption of gold certificates	9, 687, 424. 00
Redemption of silver certificates	22, 286, 535. 00
Redemption of United States notes (legal tender)	74, 068, 000. 00
Redemption of certificates of deposit	87, 900, 000. 00
Redemption of 3 per cent. loan of July 12, 1883	127, 612, 850. 00
Redemption of sundry old loans and notes	840, 518. 15
Amount allowed by compromise to H. W. Hoffman, United States depository, Baltimore, Md.	7, 997. 04
	<hr/>
	\$539, 841, 498. 76

512, 851, 434. 36

nded in this balance \$512,851,434.36 are the following un-
available funds, viz:

Amount due from United States mints, depositories, and sub-
treasuries (increase of \$200 during fiscal year) 1, 410, 934. 44

Amount due from the several States, deposited with them
under act June 23, 1836, viz:

Maine	955, 838. 25
New Hampshire	669, 086. 70
Vermont	669, 086. 79
Massachusetts	1, 338, 173. 58
Connecticut	764, 670. 60
Rhode Island	382, 335. 30
New York	4, 014, 520. 71
Pennsylvania	2, 867, 514. 78
New Jersey	764, 670. 60
Ohio	2, 007, 260. 34
Indiana	860, 234. 44
Illinois	477, 019. 14
Michigan	286, 751. 40
Delaware	286, 751. 40
Maryland	955, 838. 25
Virginia	2, 198, 427. 99
North Carolina	1, 433, 757. 39
South Carolina	1, 051, 422. 09
Georgia	1, 051, 422. 09
Alabama	669, 086. 70
Louisiana	477, 019. 14
Mississippi	382, 335. 30
Tennessee	1, 433, 757. 39
Kentucky	1, 433, 757. 39
Missouri	382, 335. 30
Arkansas	286, 751. 40
	<hr/>
	28, 101, 644. 01

Total unavailable 29, 521, 579. 35

SPECIAL WORK.

(1) A general "Receipt Ledger" giving under appropriate head the receipts from all sources into the Treasury for every year from 1789 to June 30, 1880, has been finished.

(2) A similarly arranged "Expenditure Ledger" has been nearly completed. The making of these ledgers has led to much research and labor, but they will more than compensate for the time expended in the invaluable facilities they will afford in future investigations of the receipts and disbursements of the public revenue, by furnishing easy references.

(3) Indexing by names and appropriations of the old ledgers without indices has progressed, several volumes having been completed and others under way. It is incomprehensible how this very necessary matter should have been neglected as the ledgers were being filled with entries.

(4) The "Receipts and Expenditures" for the year 1885 will be finished and ready for transmittal by the meeting of Congress, and that for 1886 is well under way, much of it being now completed. This important work was five years behind when the present chief took charge of the division, the last volume then published being for 1880.

(5) Much time and labor has been expended during the year on the work of examining and correcting the old unbalanced accounts, some of them reaching back to the early history of the Government, which arose in many instances from clerical errors, omissions, misdirections on pay and covering warrants, carelessness in transmitting papers from one office to another, etc.

Information in detail of the receipts from all sources, the expenditures by appropriations, the condition of the public debt, and other statements appertaining to the financial transactions and accounts of the Government, required to be published by the Register, which were prepared in this division, will be found in the appendix. (See pages 713 to 877, inclusive.)

THE DIVISION OF LOANS.

This division, with 16.89 employes actually at work and a pay-roll of \$23,469.87, has the custody and registration of issues and redemptions of all bonds and evidences of public debt, the custody of blank bonds and certificates, and the preparation of interest, dividend, and coupon-bond schedules.

Its comparative cost for the past and preceding fiscal year is shown below:

Years.	Number of employes.	Amount of pay-roll.
1886-'87	16.89	\$23,469.87
1885-'86	19.35	27,251.00
Decrease	*2.46	13,782.00

* 12.7 per cent.

† 13.8 per cent.

Its current work is summarized in the following tabular statement with appended explanatory notes.

An impression of the magnitude of the operations of this division in the past may be formed by considering the following statement of the number of volumes of record on hand:

	No. volumes.
stered canceled bonds.....	2,203
ords of loans prior to 1836	2,020
ords of loans subsequent.....	1,969
nd volumes of letters and receipts.....	688
Total.....	6,880

The tabular statements herewith transmitted, marked A and B, show, loans, the total number of bonds and the amounts issued and canceled during the year, aggregating as follows:

Year.	Bonds issued.		Bonds canceled.	
	Number.	Amount.	Number.	Amount.
1886-'87.....	34,620	\$171,119,600	106,173	\$325,019,750
1887-'88.....	39,173	180,987,250	70,753	191,687,950
Decrease	4,553	9,867,650		
Increase			35,420	133,351,800

The issues show a decrease of 4,553 in the number of bonds, and of \$9,867,650 in amount, as compared with the preceding year.

The number of bonds canceled increased 35,420, representing an increased value of \$133,351,800.

As classified upon the loan account the above amounts were divided as follows:

BONDS ISSUED.

Year.	Direct issues.	Exchanges.	Transfers.	Total issued.
1886-'87.....	\$44,050	\$19,139,700	\$151,935,850	\$171,119,600
1887-'88.....	62,550	9,623,150	171,301,550	180,987,250

BONDS CANCELED.

Year.	Redemptions.	Exchanges.	Transfers.	Total canceled.
1886-'87.....	\$153,944,200	\$19,139,700	\$151,935,850	\$325,019,750
1887-'88.....	10,748,250	9,623,150	171,301,550	191,687,950

TOTAL BONDS HANDLED.

Year.	Number.	Amount.
1886-'87.....	140,703	\$496,139,350
1887-'88.....	109,926	372,653,200
Increase	30,807	123,484,150

The increase in the total number of bonds handled during the year was 30,807, amounting to \$123,484,150. This shows an increase of 28 per cent. in the number of bonds and of 33 per cent. in amounts.

The amount of Spanish indemnity certificates transferred (see Statement C) was—

1887.....	\$165,404.58
1888.....	16,721.14

BLANK BONDS ON HAND, RECEIVED, AND ISSUED (SEE STATEMENT D).

	Number.	Amount.
Blank bonds on hand July 1, 1888	199, 686	\$743, 131, 650
Blank bonds received during the year	570	1, 551, 000
Total	200, 456	744, 682, 650
Issued during year	34, 620	171, 118, 600
On hand June 30, 1887	165, 836	573, 563, 050

TABLE SHOWING WHERE OUR OUTSTANDING REGISTERED BONDED DEBT IS HELD—
THE AMOUNTS HELD AND THE TOTAL THEREOF.

	Foreign.	Treasurer United States, for national banks.	Domestic.	Total.
4 per cent. July 1	\$7, 261, 850	\$129, 702, 850	\$484, 833, 950	\$621, 888, 650
4½ per cent. September 1	3, 739, 950	79, 141, 600	124, 099, 600	206, 981, 150
Pacific Railroad, July 1		8, 481, 000	61, 142, 512	64, 623, 512
Total	11, 001, 800	212, 415, 450	670, 076, 062	893, 493, 312

Of the \$670,076,062 under heading "Domestic"—

Insurance companies hold in round numbers	\$55, 500, 000
Savings banks, institutions, etc., round numbers	209, 000, 000
Individuals, trustees, etc.	405, 576, 062
Total	670, 076, 062

Of the entire \$893,493,312 only \$11,001,800, a little over 1.23 per cent., is held abroad.

There are about 48,708 individual and trustee holders, representing \$405,576,062, or an average of \$8,327 each.

The number of accounts for all holders of United States registered bonds is about 52,500, and for holders of the District of Columbia 3.65's and 5 per cent. issue of 1879 is about 500.

The items of work, so far as it has been found possible to state them in tabular form, are shown in the accompanying statement marked E, but a large amount of work requiring 590 days, and which amounted to about one-eighth of the whole time, did not come under any heading of the classification adopted; nor does it seem possible to adopt one which will cover the many contingencies constantly arising.

The reduction in force from the preceding year (which was about 12½ per cent.), together with the large increase in the current transactions of the office, has required that the whole time of the division be devoted to its regular work, and has given very little opportunity for special duties. The most important of these special undertakings has been a report on the methods of business and work in the division, as requested by the Senate Select Committee, of which Senator Cockrell is chairman, and which was called for by the Secretary under date of March 26, 1887.

The report was intended to give a minute record of the workings of the division, with full statistical details of its transactions from July 1, 1883, to February 25, 1887, inclusive.

The publication of the large report on the payments made under various French spoliation treaties, which was prepared during the previous year, required the reading of the proof of the extensive statistical tables of which it was mainly composed.

* * * * *

THE NOTE, COUPON, AND CURRENCY DIVISION.

The division has the record and custody of all redeemed, exchanged, and transferred coupon bonds, redeemed interest checks, coupons, notes, national currency, gold and silver certificates, and other redeemed evidences of the public debt.

The following statement shows the force employed in the division and a cost for the last two fiscal years:

Years.	No. of employes.	Amount of pay-roll.
1884-'87.....	37.26	\$40,671.22
1885-'86.....	49.19	53,064.85
Decrease.....	*11.93	†12,393.63
* 24.25 per cent.		† 23.35 per cent.

The details of this division's work for the last fiscal year are explained and summarized in the following statement and annexed tables.

From these it will be seen that much labor was bestowed in rectifying and perfecting the records of preceding years, work essential to assure speed and accuracy of reference to the papers on file, when required in the transaction of business involving them. The force employed was reduced nearly 25 per cent., while the amount of current work, though somewhat diminished as to coupons and interest checks, and increased by renewed activity in redemptions of coin certificates, fell off by no means to an equal extent.

The annexed tables show the details of this work.

The work other than current proves to be a large and important addition; but notwithstanding this fact, the current work of the year was done promptly and satisfactorily.

This division has also furnished, during the year, detailed assistance to other divisions of the Department, amounting to 368½ days.

There was a decrease in the current receipts of this as compared with last year, except in that of redeemed currency, silver and gold certificates, which were increased by 3,630,860 notes, and also an increase in the number of redeemed, detached coupons scheduled, of 2,254,024.

Many errors were found and corrected. Many vouchers which should be on file are missing; some of them can perhaps be accounted for as having been withdrawn by other divisions of the Department for reference.

This work was continued from last year, and where there was at one time confusion, and where many errors existed we now have system, order, and ease of reference in the files and records.

It will require perhaps the next fiscal year to complete this work. The remaining files to be overhauled, examined, tied into 100's and 1,000's, and labeled, are the gold certificates, temporary loan, and 7.30 notes.

DIVISION OF INTEREST AND EXPENSES OF LOANS.

This is a special division organized by the Department's letter of January 4, 1886, for a much needed special investigation.

The following statement shows the organization appropriated for, and the actual expenditure during the fiscal year ended June 30, 1887.

The appropriation is for:

1 chief.....	\$2,000
1 clerk, class 4.....	1,800
1 clerk, class 2.....	1,400
2 clerks, class 1.....	1,200
1 messenger, at.....	650
Total, per annum, appropriation.....	\$8,250

The following shows the number actually employed during the fiscal year ended June 30, 1887, and the year preceding:

	Number of employés.	Amount of pay-roll.
1886-'87	4. 73	\$0. 745. 00
From January 4 to June 30, 1886	1. 27	2, 047. 25
Increase	3. 46	4, 692. 25

The delay last year in beginning work was one hundred days, waiting for provision of needful room for desks and material for the clerical work.

The results of the work being a necessary part of the history of the public debt, to be kept in this office, and other reasons, brought its operations under this office, but it is not a part of our organization, and was not therefore called upon for report under the special Senate committee's last request.

But it will be proper to say that after the issuance of the order for the work, one hundred days elapsed before the room for its work was ready, so that it began about the 1st of May, 1886.

Since that time its extremely moderate force has been drawn upon most in the Secretary's and Treasurer's offices, taking Messrs. Caron and Manson away for many weeks.

Nevertheless, decided progress has been made, in spite of the intricacies of the investigation due to the neglect to classify the interest payments according to loans under which they accrued in all except two or three small loans until 1871, all entries of payment having been made under one general account, entitled "Interest on the Public Debt." All the heavy interest payments on the great war loans had thus been treated.

Out of this grew disregard of the classes of interest payment in the settlement of accounts, and confusion in the statement of accounts of coupon payments stated by the First Auditor's and First Comptroller's offices. A like confusion was found to exist in the case of covering warrants, bringing into the Treasury interest accrued on bonds after printing and before issuance. In 1867, the faces of these warrants were inaccurate and misleading, to the extent of over five millions of dollars in the amount of \$6,681,805.53. Interest payments on loans have been so mixed that in the case of two they have not found data of record sufficient to separate them. Commissions have been charged to interest and premiums; interest and commissions have been charged to profits on purchases of bonds at a discount; premium has been taken up as accrued interest; accrued interest deducted from discount, where sales were so made; coin and currency payments intermingled, etc.

These are samples of what make persistent and careful labor indispensable in the operations of this division, and render difficult a tabular or numerical statement of results.

But it may be said that in the course of careful research demanded, it was impracticable to employ the full force of clerks, but now the way seems clearer to unobstructed progress, and the evidences of success are gratifying.

In closing this report of this last year's work, it is a pleasure to say to you that the employés of this Bureau have displayed a cheerful, spirited devotion to duty, worthy of high commendation.

Very respectfully, your obedient servant,

W. S. ROSECRANS, *Register.*

HON. CHARLES S. FAIRCHILD, *Secretary of the Treasury.*

ANNUAL REPORT

OF

THE SECRETARY OF WAR.

WAR DEPARTMENT,
Washington City, December 5, 1887.

To the PRESIDENT :

I have the honor to submit the following report of the administration of this Department :

EXPENDITURES, APPROPRIATIONS, AND ESTIMATES.

The payments from appropriations under direction of the Secretary of War by requisitions upon the Treasury Department from July 1, 1886, to June 30, 1887, were :

Salaries and contingent expenses.....	\$1,935,813.91
Military establishment: Support of the Army and Military Academy.....	24,184,453.48
Public works, including river and harbor improvements.....	9,863,551.97
Miscellaneous objects	5,402,345.77
Total.....	41,386,165.13

The sum of \$917,728.29 pertaining to War Department appropriations was carried to the surplus fund June 30, 1887.

The appropriations for the War Department for the fiscal year ending June 30, 1888, are :

Salaries, contingent expenses, stationery, rent, and postage	\$2,123,487.00
Military establishment—Army and Military Academy.....	24,011,485.62
Public works, including river and harbor improvements.....	1,303,403.88
Miscellaneous objects	3,611,919.85
Total.....	31,055,302.35

The estimates of the War Department for the fiscal year ending June 30, 1889, are as follows :

Salaries and contingent expenses	\$1,903,585.00
Military establishment, Army and Military Academy	25,689,615.73
Public works, including river and harbor improvements.....	22,339,151.20
Miscellaneous objects	3,406,358.31
Total.....	53,338,710.24

The estimates for salaries and contingent expenses for the fiscal year ending June 30, 1889, are considerably less than the appropriation for the current year. They have received careful attention, and are fully explained in the Book of Estimates. The entire amount is required and necessary for the proper administration of the Department. The estimates for the military establishment are based upon the actual requirements of the service. During recent years, the appropriation for transportation of the Army has been inadequate to meet the cost of transporting the Army, and the failure to appropriate funds for that service has caused much embarrassment, and greatly increased the labor in settling such accounts. The estimates for fortifications and other public works, and for the usual miscellaneous objects under the War Department, are based upon the needs of the service. The estimates for improving rivers and harbors represent the probable cost of such improvements if approved by Congress.

The statement of appropriations, expenditures, and the balances on hand at the end of the fiscal year ending June 30, 1887, which is required to be submitted to Congress by section 228 of the Revised Statutes, is appended to this report.

THE ARMY.

The Lieutenant-General reports that at the date of the last consolidated returns there were 2,200 officers and 24,236 enlisted men in the Army, divided as follows:

	Officers.	Enlisted men.
Generals.....	10	.....
General staff.....	576	1,386
Ten regiments of cavalry.....	439	6,806
Five regiments of artillery.....	286	2,482
Twenty-five regiments of infantry.....	889	10,950
Indian scouts.....	.....	226
Detachments, recruiting parties, etc.....	.....	2,396
Total.....	2,200	24,236

In the Division of the Atlantic few changes have occurred in the disposition of troops. The Twelfth Infantry, having finished its tour of duty in the East, has been replaced by the Eleventh Infantry, which has been in Montana and Dakota since 1876. Two companies of cavalry that have seen service in Arizona and Colorado have been stationed at Fort Myer, Va. No other changes of importance have been made. Detachments from the several branches of the service took part in the centennial celebration in Philadelphia and the military encampment at Chicago.

The new post at Atlanta, Ga., is approaching completion, and a garrison will be placed there next summer. The new buildings at Fort ~~will~~ **will** probably be completed within a

year. The buildings, fortifications, public works and grounds in this division are in the same condition as described in the report of 1886, and are everywhere in need of repair or reconstruction. Their armaments, if such they can be called, for the protection of a sea-coast line of 2,870 miles, and of a northern frontier line of 2,530 miles, are described in General Schofield's report as follows:

Of the 62 posts in this division which may be properly termed artillery stations, 8 are garrisoned by infantry and 39 have no garrisons at all. In the 5 fortifications guarding the entrance to the Mississippi and the city of New Orleans there are mounted but 4 rifled guns, which are of obsolete type; in the harbor of Mobile but 26 are mounted, which are also obsolete; at Key West there are 17 obsolete rifled guns; at Pensacola there are none whatever; in the harbor of Saint Augustine none; Cumberland Sound none; in the defenses of Savannah 2, obsolete; in Charleston Harbor 2, obsolete; in Wilmington none; New Berne 2, obsolete; Hampton Roads, including Norfolk and Richmond, has but 12 rifled guns, of which 7 are obsolete; in the defenses of Washington no rifled guns are mounted; Baltimore has none; Philadelphia none; of the 9 lake ports, 8 are without sea-coast guns of any description whatever, and none of them have rifled guns; in all the defenses of New York Harbor there are mounted but 57 muzzle-loading rifled guns, of which 44 are of obsolete pattern; the harbor of New London has none; Newport has 4, obsolete; Clark's Point, 4; Boston harbor has 6 rifled guns mounted, of which 2 are obsolete; Portland only 6, of which 2 are obsolete; and the defenses of the Kennebec and Penobscot Rivers none.

Thus on the entire Atlantic and Gulf coast and northern frontier there are mounted but 142 rifled guns, of which 116 are obsolete and of very low power. Even the few serviceable rifled guns that are mounted are of but little value. Some of them are mounted on old carriages, and all are without adequate protection. Yet it is intended to pursue without remission every possible effort to improve the artillery instruction. To this end it is respectfully recommended that each artillery post be furnished with at least one 8-inch muzzle-loading rifled gun, with such other appliances as may be needed for artillery target practice and other technical instruction, and with one or more of the new breech-loading guns and mortars as soon as they become available.

The closing recommendation of General Schofield is a very important one, but the Department is unable to comply with the request, as we have no guns suitable for such target practice and technical instruction. This division is garrisoned mainly by artillery, four-fifths of the officers and men of that arm being stationed within its limits. In no branch of the service is technical instruction and daily experiments and practice in the use of its weapons more demanded than in the artillery. Infantry can be rapidly organized and soon made serviceable; but the trained and well-instructed artillery soldier, whether officer or enlisted man, is only obtained by long and patient work. It is earnestly hoped that, if guns cannot be had for fortifications, appropriations can be made for the purchase or manufacture of enough guns to employ the artillery and fit them for any emergency. The light batteries in this division are said to be in good condition. It is probable that new 3.2-inch steel E. L. rifled guns, with proper carriages, mentioned under the head of Ordnance Bureau, will be put in their hands during the coming season. A concentration of these batteries may be made at Fort Niagara, N. Y., which affords better facilities for their work than any other place in the division, when that post can be prepared for their reception.

The Apache Indians have been removed from Fort Marion since last report. This fort, which was intended only as a temporary resort, proved on many accounts an unsuitable place. The fort is close to the town of Saint Augustine, Fla., open to constant intrusion by civilians and strangers; it possesses but limited accommodations, and affords no occupation to the Indians. Before the removal was made in April last, Captain Pratt selected from the children and young men and women those capable of instruction and took them to the Carlisle School. The wives and children, about forty in number, of Geronimo and his band, were sent to Fort Pickens, and the remainder, about three hundred and fifty in number, were conveyed to Mount Vernon Barracks, Ala. This fort is on high ground in a wooded country about 40 miles north of Mobile. It is a healthy station, the climate being well suited to the Apaches. The officer in command of the fort, Major Sinclair, of the Second Artillery, has made every provision for their comfort. They are said to be contented, perform their work with alacrity, and thus far their conduct has been excellent. The men have been employed in cutting logs and erecting huts, and the women in gathering wood and attending to camp and domestic duties. A soldier's full ration is given to all, including the children. At this time it is a difficult matter to find for them a permanent home; for many reasons it is impossible to return them to Arizona; under existing laws they cannot be taken to the Indian Territory; and in the northern reservations the climate is too cold for them. Pending a final decision they can remain where they are in comfort and safety.

In the Division of the Missouri, the only change in the department commanders has been the assignment to the command of the Department of the Missouri of Brig. Gen. Wesley Merritt, in place of Brig. Gen. Orlando B. Willcox, retired. This command General Merritt assumed on being relieved as Superintendent at West Point on the 1st of July last. The changes that have been made in the boundaries of the division are the transfer from the Department of Arizona to the Department of Texas of the post of Fort Bliss and that portion of El Paso County, Tex., which lies north of an east and west line passing immediately south of the town of San Elizario, and the transfer from the Department of Arizona to the Department of the Missouri of the post of Fort Lewis, Colo. No change has been made in the organization of the division; it still consists of the Departments of the Platte, Texas, Dakota, and the Missouri.

During the past year, it has been necessary to patrol the Oklahoma country in the Indian Territory to keep out intruders and to protect the Indian reservations. A considerable body of troops have been constantly engaged on this duty, and there have been no serious disturbances.

In Colorado, near the Uncompahgre Reservation, a serious difficulty occurred in August last between the civil authorities and the militia of

State on the one side, and a band of Ute Indians on the other, under Colorow, leading to no serious consequences, except causing loss of life and property and an increased bitterness of feeling between the whites and the Indians.

From the report of General Crook it appears that the Indians were on their reservation, with their flocks and herds, in Garfield County, Colo., and the trouble arose from an attempt to arrest some of them, charged with stealing horses and violating the game laws of the State. The sheriff and game warden of the county each summoned a posse to assist in making the arrests. The warden, with his posse, surprised the Indian camp on the North Fork of White River, and without any notice of his purpose seized several Indians. The latter attempted to get their weapons, and while breaking away and running for cover were fired on by the posse, and three were wounded. The warden then retired, joined forces with the sheriff, who with his posse had started to make arrests. A party was sent by the sheriff to an Indian camp on Coal Creek, occupied by squaws and children, who fled in haste, and the posse burned the tepees or tents and a large amount of buckskins. The Indians then had an interview with certain prominent gentlemen of Meeker, who went to Coal Creek to meet Colorow and his band, who were much alarmed by the attacks made on them and wished to know the cause. Colorow did not consent to give up the Indians complained of, but promised to leave the country, requiring fifteen days to collect his herds of horses and sheep and drive them to his reservation, 100 miles distant. In the mean time the sheriff increased his posse to fifty men, and was also joined by a force of Colorado militia, under command of Brigadier-General Reardon, who had orders to assist the sheriff in the execution of his civil process. On the 24th of August an interview was held with Colorow's son, at which it was agreed by the whites that matters should remain as they were until the Big White Chief arrived, by which the Indians understood that they would be allowed to go unmolested to their reservation. They started on their way, and while in camp, on the 25th of August, on White River, at a point, as they believed, on the Uncompahgre Indian Reservation, they were attacked by the whites, who opened fire, completely surprising them, and the firing on both sides continued three hours and a half. Late in the afternoon the Indians fell back, and the whites returned to Rangely. In this affair a lieutenant of the militia and a deputy sheriff were killed; several others were wounded. After the fight a white man was killed in attempting to run off some Indian ponies. The Indians lost one small boy, who was killed, and one buck and one squaw were wounded. The whites numbered 180 men, 100 being militia. The Indians numbered not more than twenty-five fighting men in the affair. The whites justified their attack on the ground that the Indians broke faith in removing their camp.

Subsequently matters were arranged between Lieut. G. R. Burnett, Ninth Cavalry, and Major Leslie, of the Colorado militia. No more hostilities occurred, and the Indians retired to their reservation. At this time the Indians were mustering in force from the reservation and were greatly excited. General Crook says it was extremely fortunate that Lieutenant Burnett arrived upon the scene of action as he did. There can be no doubt, and it was so stated by Brigadier-General Reardon, that his presence saved the lives of Sheriff Kendall's entire party, and prevented a serious outbreak. At the beginning of the hostilities the Indians had between 300 and 400 head of horses and about 2,500 head of sheep and goats. They lost all their sheep and goats, and but 125 horses had been returned to them on September 15. Application was made to the State officials concerning the indictments against the two Indians, Cibilo and Big Frank, for stealing horses, but the information requested has not been furnished.

In his report General Crook says:

From the outset the Indians were, with but one slight interruption, pursued incessantly. In every case the whites were the aggressors and fired first. Colorow had no desire whatever to fight, and made use of his weapons in self-defense only, for the protection of his women and children and his herds. During the whole time they were pursued, and including the losses in the fight of August 25, five Indians died from effect of wounds received, viz, one "buck," one large boy, one small boy, and two small girls. Seven others were wounded, one perhaps mortally.

In closing his report, General Terry remarks:

I do not think that any comment upon this report, or upon the painful facts that it discloses, can be necessary. These facts speak for themselves. Moreover, it is not within my province to criticise the actions of the civil authorities whose part in these transactions is set forth. I may, however, be permitted to say, that if General Crook has not been deceived, the methods pursued by the civil authorities of Garfield County were, to say the least, unusual. I do not understand that the burning of the unoccupied habitations of persons, for the arrest of whom warrants have been issued, and the burning of the habitations of their friends and neighbors, or the opening of rifle fire without warning upon an unsuspecting body of men, women, and little children, among whom persons for whose arrest warrants have been issued are supposed to be, are usual steps in the service of process.

Some effort should certainly be made for the restitution to the Indians of their property.

There has been trouble on the Crow Indian Reservation in Montana, the result of a horse-stealing raid of the Crows against their neighbors the Piegiens. Having succeeded in their raid, the Crows returned to Agency, and in celebrating their success became much excited, and them intoxicated. They fired their guns, some of the bullets went's house and the sutler's store. This led to a difficulty of the Interior Department that threatened serious was followed by a demand for the use of troops. The that time in Saint Paul, sent General Ruger or was authorized to arrest the lead-less young men, thirty in number,

and send them to Fort Custer. He was successful in quieting the disturbance.

The extension of railroads through this division opens communication with many posts formerly difficult and expensive to reach, and the retention of some of the smaller stations is no longer necessary. The concentration of garrisons at larger posts is not only a measure of economy, but by having greater numbers assembled together in commodious stations the discipline and drill can be better maintained, and the men are more contented and interested in their work. The enlargement of the posts at San Antonio, Fort Riley, and Fort Snelling, and the new posts at Denver and Chicago, will enable several smaller stations to be abandoned. The Lieutenant-General proposes to concentrate at Fort Riley, when completed, light batteries and cavalry, as it possesses great advantages for the practice and improvement of these arms of the service.

During the last year the peaceable condition of the Indians has relieved the troops in this division from any active service in the field, and has enabled them to devote more time to practice marches and field camps. Their condition in health and discipline is said to be excellent.

In the Division of the Pacific the headquarters were changed in November, 1886, from the Presidio to the city of San Francisco. By this change the public business has been greatly facilitated, and comfortable quarters have been secured at a moderate rental in the center of the city. The change of the headquarters of the Department of Arizona from Whipple Barracks, Ariz., to Los Angeles, Cal., has been of advantage to the service.

No Indian hostilities have occurred in this division, but the Army has been employed in many places in protecting the Indians' lands from trespassers and in quieting disturbances among them. For this purpose cavalry was sent to Amargo, N. Mex., to protect the reservation of the Jicarilla Indians, and a similar work was performed at the Osage Indian Agency. At the Navajo Reservation, and also at other places, the presence of troops has resulted in preventing action that might have led to very serious complications. From the report of General Howard it appears that nearly the whole of the Round Valley Indian Reservation is in the hands of white stockmen, the majority of whom have no title whatever. On the request of the Secretary of the Interior, troops were promptly sent to remove the trespassers. Since then the matter has been taken to the courts in California, and action thereon has been suspended. The garrison at Fort Gaston is still necessary to protect the Hoopa Indians from the encroachments of the whites. The troops have done considerable work in practice marches, target-firing, and field camps. Since the removal to the east of the Chiricahua and Warm Spring Apaches, there has been general tranquillity in Arizona. Some of the troops concentrated in this department have been transferred to other posts.

The First Regiment of Infantry marched to Santa Cruz, Cal., and there encamped for two months during the summer. The State militia were encamped in their neighborhood, and had the advantage of observing army methods. It would be of great service if regular troops could be present at all encampments of militia. The Lieutenant-General makes the following recommendation, which is well worth the attention of the State authorities as well as of the United States:

I am strongly in favor of the General Government extending all possible aid to the National Guard of the different States, as they constitute a body of troops that in any great emergency would form an important part of our military force. They should be armed with the best weapons, amply provided with complete camp and garrison equipage, and instructed in the various drills and exercises according to the tactics and systems followed in the Regular Army. According to my observation and experience, most of the State troops now march well and handle the gun well, but they are deficient in discipline and in all the duties that teach a soldier to take care of himself while in camp or upon a march. This defect can best be overcome by establishing some system of encampments under the control and direction and at the entire expense of the General Government; in the development of such a measure, the entire Army, as well as myself personally, will be glad to render such assistance as lies in our power, and I recommend that the favorable consideration of the subject may be commended to Congress.

Similar suggestions and recommendations are to be found in the reports of other general officers.

The same report comes from the Pacific as from the Atlantic coast, that our harbors are destitute of fortifications, guns, and armament of every description. San Francisco is without a gun that can be fired with safety. General Howard has sent to this Department a report by a committee to the legislature of California, giving a full description of the condition of the forts in the harbor of San Francisco, and urging immediate action for coast defense.

The Lieutenant-General again recommends the increase of the Army. He is of the opinion that 5,000 men should be added to the present force. This would render it possible to perfect the organization of the infantry by adding two majors and two companies to each regiment. This has been recommended so many times that the reasons given in the three last annual reports need not be repeated here. In this connection I would also call attention to some remarks of General Schofield in his report, wherein he suggests the importance, in the event of any increase of the Army, that two additional regiments of artillery should be provided for, in connection with certain changes in the present organization of artillery regiments. While addition to the present force is desirable to make more perfect and efficient our small Army and render it more easily and rapidly capable of development and expansion in time of emergency, it is very plain that in any increase the fact should be kept in mind that those arms of the service which require long training to perfect the soldier should not be overlooked. The artillery is one of these arms, and should Congress decide to add to the Army, the artillery should come in for its share of increase.

The reports from the commanding officers of the schools of instruction in the three arms of the service, viz, cavalry, artillery, and infantry, justify the expectations of those who established these schools. They afford admirable post-graduate courses of study, and it will be necessary, as it is desirable, that every officer should take his tour of duty, in order that he may be fully equipped for his duty. If the recommendation that officers should be examined for promotion, as proposed in the report of 1886, is approved, every officer would have to advance to the standard established by the schools of his special arm. Trust that the bill introduced in the Senate at the last session may be passed by Congress.

Of the 2,176 officers of the Army, 392, or 18 per cent., are on detached service or absent on sick or ordinary leaves. Many of the absentees are physically disabled, and unable to perform any duty. The Lieutenant-General says, in his report, that 80 are in this condition, many of whom have been so found by retiring boards. This throws increased labor upon the officers who are serving with troops or with the staff corps, and tends to reduce the efficiency of the Army. The permanently disabled officers should be at once retired, and it is hoped that Congress will authorize a sufficient increase of the retired list to accomplish the purpose. If it is objected that the retired list is already large, it must be borne in mind that it is made up largely of those who served in the volunteer army during the late war, who were appointed under the act of July 28, 1866, which expressly provided that a large proportion of the original vacancies in the Regular Army should be filled by officers who had been wounded in the volunteer service.

THE MILITARY ACADEMY.

The Board of Visitors appointed to attend the annual examinations at West Point reports that the number of cadets present on September 1, 1887, was 304 (including one cadet from Guatemala receiving instruction under the provisions of joint resolution of Congress approved February 2, 1884). The classes are divided as follows:

First class	45
Second class	53
Third class	77
Fourth class.....	129

The general conduct and manly bearing of the cadets, the good order and cleanliness of their barracks, and the discipline prevailing at the Academy are commended. In the methods of government and discipline no criticism is made, and the belief is expressed that in all particulars, whether as infantry, artillery, or cavalry, the corps of cadets are not surpassed by an equal number of the best trained soldiers in the world. The present system of instruction is admirably adapted to prepare the cadets to become professional and successful soldiers. For reasons which are fully explained in their report to the Secretary of War, the Board recommends that the educational standard for admis-

sion to the Academy be raised, and that a knowledge of elementary algebra and geometry be added to the requirements for admission. Thus much valuable time would be saved that might be devoted to other studies after entering the Academy, and the number of discharges annually made for deficiency would be reduced.

The police administration is efficient, and the management of the fiscal affairs is judicious and economical. The Board lays stress upon the necessity of furnishing the Academy with at least one modern gun, as well as with samples of the most approved field artillery and ammunition. There can be no doubt that our cadets should be familiar with the guns and appliances used in modern warfare. The Board makes numerous suggestions for the improvement of the grounds of the Academy, and advise appropriations for that and many other objects which will be duly presented to Congress.

ADJUTANT-GENERAL'S DEPARTMENT.

In compliance with requests from State authorities, the annual encampments of the militia in thirteen States have been inspected by officers of the Army. This system of inspection has great advantages, by bringing well trained and instructed soldiers in contact with the militia, and gives an opportunity for improvement not to be obtained in any other way. The reports of the several inspecting officers, appended to the Adjutant-General's report, are full of encouragement, friendly criticism, and suggestions to the militia. They will be sent to the several States, and should receive the careful consideration of their officials. The Adjutant-General says:

The steadily increasing interest manifested by the militia of the States is evidenced by the high percentage of attendance at the annual encampments and the generally excellent military spirit of the troops. With the liberal increase of the appropriation made by Congress at its last session for the benefit of the militia, it is earnestly hoped that the State military authorities will, by an increased allowance of ammunition, foster and develop the efficiency of the rank and file in target firing. The care of his weapon is an important duty of a soldier, and therefore, while many company organizations include an armorer, his duties should not be those of an absolute care-taker, but rather as an instructor of the men of the company, except in rare cases, where his services as an expert are a necessity. Much benefit would undoubtedly result from the establishment, during each encampment, of an officers' school for instruction in battalion drill and the administration of a post. As the correct handling and management of a company depends measurably on the intelligence and knowledge of its non-commissioned officers, I would also suggest the advantage of holding weekly, during the winter months, a non-commissioned officers' school (the captain as instructor), for instruction in company drill, duties of guards and sentinels, and the administration of a company. Young officers of the Army could be spared during the winter, to report to the adjutants-general of States, on application of the governors, to aid in the instruction of both officers and non-commissioned officers. While it is evident that still many earnest workers in bringing up the militia to its highest efficiency seem to regard mechanical perfection in drill as the great desideratum in the art of war, evidences are not lacking to show the development of the truer perception—that knowledge of military duties, the cultivation of individual powers, endurance, intelligent but cheerful obedience, are, in truth, the real characteristics of the citizen soldier of the Republic.

The inspection of colleges having military details has proved of great benefit, and afforded much needed information. The number of students attending the colleges inspected this year is 6,692; attending artillery drills, 660; and infantry drills, 3,273. While the total number of students this year is 908 less than last, the number attending drills is somewhat larger. The reports of the inspecting officers show that the students at these colleges are interested in drill and discipline, and are alert and ready pupils; but greater interest would be felt, and better results obtained, if the authorities of the colleges evinced more sympathy with this military branch of education, and gave to the officers a seat in the faculty, and to military instruction a position equal to that of other branches of study.

The pay of non-commissioned officers of the Army is too low. It is often less than that of a private on extra duty, and the position is therefore frequently declined by reliable men. The remuneration should be increased, to range from \$25 to \$55 per month, as an incentive for good soldiers to seek, rather than to avoid, promotion.

The records show that the great majority of the men who desert or seek discharge are those of less than three years' service. This is a great evil and a constant drain on the Army. In order to get rid, without injury to the Government, of recruits who are inefficient, worthless, discontented, and unfitted for the service, the Adjutant-General recommends that discharges should be made purchasable at rates that would reimburse the Government for expenses of recruiting and transportation.

The military prison at Fort Leavenworth has been increased by the construction of a building of three stories, 200 feet in length by 40 in width, and is now equal to all probable demands while the Army remains at its present strength. It receives, without restriction, prisoners from all the military divisions of the country, except the division of the Pacific. Prisoners from that division are sent to Alcatraz, Cal. In the various shops a large amount of manufacturing and other work has been done, aggregating for the year a net value of \$34,066.55. The total amount to the credit of the prison with the Quartermaster's Department on, June 30, 1887, was \$153,297.71. As the result of prison labor, a considerable fund has also been accumulated from sales of farm produce, etc. At the same time supplies have been raised, which have contributed to the health of the prisoners, and reduced the expense of their maintenance. The number of inmates on June 30, 1887, was 496, or 81 less than the previous year.

In the pension branch of the Adjutant-General's Office there has been efficient work on the part of the clerical force. The number of unanswered calls from the Pension Office on hand October 1, 1886, was 5,946; received during the year 169,015, making a total of 224,961; finished during the year 193,408, leaving on hand October 1, 1887, 11,553. During December, 1886, the number of calls increased, and by

extra work, at first volunteered, and afterwards enforced by order of the Secretary of War, the number of unanswered calls was reduced by nearly 30,000 cases. The Adjutant-General says: "The prompt and cheerful response of the clerks and the energy, zeal, and fidelity exhibited by them entitle them to high commendation."

A large amount of work has also been done in the re-mustering of volunteer officers: and it is probable that about 3,000 cases will hereafter be finished annually with the present force at command. Also work under the law of July 3, 1834, providing for the removal of the charge of desertion, is making satisfactory progress. About 12,000 cases have been acted upon, or are under investigation, leaving about 2,500 for examination.

INSPECTOR-GENERAL'S DEPARTMENT.

All duties devolving upon this Bureau have been performed, and all accounts verified. The work of 40 officers detailed at colleges as military instructors has been inspected for the first time. With this additional labor the force of the Department is inadequate, aided even by line officers detailed as acting inspectors, and the request for increase made last year is repeated. The Inspector-General recommends that 10 cents per mile, for distances actually traveled, be paid to officers on inspecting duty, as the present allowance does not cover their actual necessary expenses, and also that increased allowance be made for transportation of luggage. He also urgently presses the claim of inspectors-general for permanent clerical assistance commensurate with that of other staff departments.

As regards both officers and men, he reports the condition and spirit of the Army to be excellent. This is evinced by the perfect and speedily attained in any branch of military duty especially fostered, although it may happen that this branch is encouraged to the detriment of others equally important. Such, in his opinion, has been the case with target practice. The quality of the clothing and of the food issued to the men is good, but the Inspector-General repeats his recommendation that uniforms should be fitted to the soldiers without charge, and that the proceeds of unconsumed rations should be expended in providing fresh provisions and greater variety of food, rather than used to create special funds. He suggests, as a measure both of economy and of comfort to the soldier, that bread-baking and the messing of troops be turned over to the Subsistence Department, and that all savings of money be turned over to it, leaving regimental and similar funds to be provided by appropriations.

of the work of officers detailed as military instructors
this year for the first time, suggests to the In-
of regulations defining the duties of the
the colleges and granting to the stu-
is indicating in case of need their fit-

ness for military employment. The advantages of military instruction are unquestionable, but he considers they are counterbalanced by the fact that the officer imparting it is withdrawn from his post, to the detriment of the service.

JUDGE-ADVOCATE-GENERAL'S DEPARTMENT.

The records of the Judge-Advocate-General's Office show a decrease of trials by general courts-martial during the past year of 343 and by inferior courts-martial of 729 cases. This is a satisfactory result, but the reduction would be much greater if provision could be made for punishment of minor offenses without summoning a court-martial, as indicated in the annual report of 1886. I would also renew the recommendations in regard to the enactment of laws for the punishment of civilian witnesses who refuse to testify, for authority to secure the assistance of civilians and police officers in arresting and holding deserters, and for revision of the Articles of War, which have remained substantially unaltered, while in England and elsewhere military codes have been modified in accordance with the requirements of modern times. I hope to submit for the consideration of the proper committee of Congress some drafts of enactments dealing with these amendments to the law.

I would also recommend legislation regulating the punishments that may be inflicted by courts-martial. Similar offenses, tried by different courts, now meet with widely different punishments. The evil is great and the extent of punishment should be limited. In cases which upon the record do not appear to differ materially in the gravity and character of the offenses, one court will sentence to imprisonment for five and another for less than two years. I also concur with the Acting Judge-Advocate-General that it should be determined by law to what extent the statute of limitations applies to cases of desertion from the Army, and how far minors are liable to military jurisdiction after enlistment.

He also recommends that Congress provide compensation for officers who serve as members of general courts-martial. As long ago as the year 1802 Congress saw the propriety of "allowing such reasonable compensation where any commissioned officer shall be obliged to incur any extra expense in traveling and sitting on general courts-martial," thus providing by statute what had been a matter of regulation under President Washington. Accordingly Congress provided that such officer, "for such extra expense," should receive a commuted sum per diem, which was equivalent to the average cost of board at that time in the better class of taverns and hotels.

Congress also provided for a small additional per diem allowance to the judge-advocate of the court for his extra labor during the time he was employed in the duties of the court. These per diem allowances were continued by Congress in annual appropriation acts, including the act of July 15, 1870, which made a new schedule of officers' pay.

This act, however, despite the specific appropriation, was held to prohibit such allowances by implication. As a consequence, great injustice has resulted, and the detail of an officer away from his proper post to serve as a member of a court-martial, is practically a tax, the amount of which depends on the length of the trial. This tax is often large, when the military court is assembled in a city and sits for any length of time. I recommend that for the extra expense thus necessarily incurred each commissioned officer while traveling to or from the place of session of a general court-martial, court of inquiry, or retiring board, and during its session, be allowed a reasonable compensation for such extra expense actually incurred; and that the judge-advocate or recorder of any such court or board shall, in addition to his other pay, receive a per diem allowance for every day he shall be necessarily employed in the duties of such court or board. It would also be just that each of the commissioned officers in the Judge-Advocate General's department, below the grade of judge-advocate-general, be authorized to have one civilian clerk, whose compensation and traveling allowances shall be the same as those of paymasters' clerks.

LOSSES OF PERSONAL PROPERTY.

The act of March 3, 1885, provides for the settlement of the claims of officers and enlisted men for loss of private property destroyed in the military service. A conference with the accounting officers of the Treasury Department resulted in an understanding whereby those officers agreed to first certify that the claim came within the provisions of the act, and that the evidence filed in its support proved the loss. The case is then to be sent to the Secretary of War, who decides what articles in the claim were "reasonable, useful, necessary, and proper." This arrangement removes many of the difficulties in settling these claims, but the adjustment is still attended with much trouble and embarrassment.

Claims amounting to \$2,038.45 have been paid, and the other claims filed will be taken up as speedily as possible.

QUARTERMASTER'S DEPARTMENT.

The balances from former years, in the Treasury to the credit of this Department, on June 30, 1886, amounted to \$711,883.21. The appropriation for the last fiscal year was \$10,830,256.67, of which \$1,469,239.56 was in the Treasury on June 30, 1887.

The erection of 71 new buildings at a cost of \$150,638 was authorized in eleven States and eight Territories. The cost of repairs to existing buildings amounts to \$330,406.

Under acts of Congress approved August 4, 1886, and January 29, 1887, \$15,000 have been paid for additional land near the military post at Atlanta, Ga., and the expenditure of \$52,390 for buildings has been directed. Plans and estimates for the completion of barracks and other

Buildings at Fort D. A. Russell, Wyo., and at Fort Robinson, Nebr., have been approved by the Secretary of War, and the sums of \$50,000 and \$5,000 have been respectively apportioned by him for these purposes. The plans and estimates for work at San Antonio, Fort Porter, and Fort Bay, to the amounts of \$50,000, \$35,000, and \$40,000, respectively, have also been approved.

The purchase of grounds for a military post near the village of Sault Ste. Marie, Mich., under act approved July 8, 1886, has been delayed by difficulties arising about the title to the land tendered to the United States by Thomas Ryan. The offer of Mr. Ryan was accepted, but pending the examination of the title by the Attorney-General, Mr. Ryan sold a strip of land 80 feet wide through the center of the tract to the village of Sault de Ste. Marie. An adjustment of the difficulties arising from this action has not yet been reached.

Under the act of Congress approved February 17, 1887, appropriating \$100,000 for the purpose, a tract of 640 acres, about 7 miles from Denver, Color., has been purchased as a site for a new post, and is now occupied by two companies of the Eighteenth Infantry. As the barracks at Newport, Ky., are frequently overflowed by the Ohio River, Congress, by act of March 3, 1887, directed their sale, and the purchase of a suitable site for a new post in that vicinity. A tract of 111 acres, costing \$43,100, has been selected, and the title is under examination and plans and estimates for the building are in preparation.

By act of January 29, 1887, Congress appropriated \$200,000 for the establishment of a school of instruction for cavalry and artillery upon the reservation of Fort Riley, Kans; plans for this institution, costing \$183,600, have been approved by the Secretary of War, and the work is in progress.

Work on the building for Army purposes on the site of the old Produce Exchange in New York is being rapidly pushed forward. The building is eight stories high, fire-proof, well lighted and ventilated, and is provided with all modern conveniences. It is nearly finished. The current appropriations not being available for water supply, steam heating, inside finish, and furnishing of offices, and also in consequence of its increased size, a further sum of \$86,000 will be required for its completion. The remodeling of the old building was found to be impracticable on account of its weak foundation. It was therefore necessary to remove it, and build a new foundation which largely added to the expense. The immediate appropriation of this amount is recommended.

Under authority of Congress, a tract of 310 acres near San Antonio, Tex., hitherto rented as a drill ground, has been purchased for \$5,000. A tract of 632½ acres near Chicago, presented by the Commercial Club of Chicago to the United States for military purposes, has been accepted. The title to this land, known as the Highwood Tract, was approved by

the Attorney-General, and the deeds have been returned to the Department of Justice for record.

For construction and repairs of hospitals, sanitary improvements, posts, care of post cemeteries, etc., \$138,119 has been expended. The question of title to the site of Fort Brown, Tex., remains still unsettled.

By direction of the President, military reservations have been set apart in the Crow Indian country near Fort Ouster, Mont., and at Washakie, Wyo. The reservations at Fort Colville, Wash., Fort Belknap, Mont., Forts Halleck and McDermit, Nev., and the old Dragoon barracks lot, Saint Augustine, Fla., being no longer useful for military purposes, have been transferred to the Department of the Interior.

During the fiscal year the cost of transportation has been as follows: For 187,549 persons, including 154,699 carried by Government vessels, the sum of \$412,394.26; for 145,010 tons freight and 7,608 animals, the sum of \$1,003,698.27; other sums payable from appropriations for Army transportation increase the total amount expended to \$2,832,908.60, of which \$290,861.68 remain unpaid. As the appropriation was \$2,800,000 for transportation there is an apparent deficiency of about \$33,000 to be provided for hereafter. The expense of military transportation, not covered by regular appropriations, includes that over bonded Pacific roads, amounting to \$477,142.23. This sum is credited by the Treasury Department against debts due by those roads to the United States; it also includes \$70,936.98 for transportation over land-grant railroads, on which roads 50 per cent. of tariff rates are paid. The act of Congress of June 30, 1886, directing this course, included a special appropriation of \$85,000 for the purpose. Accounts with the bonded Pacific railroads have been adjusted during the past year in the same manner as heretofore, with an exception in the case of the Sioux City and Pacific Railroad. By a decision of the Attorney-General, under date of November 12, 1886, this road is held not to be within the sinking-fund act of May 4, 1878, and is entitled to payment in cash of 50 per cent. of amount earned on the subsidized portions. Settlement of accounts have been made accordingly.

The last annual report of the Quartermaster-General gives at length the position of the Government in relation to the bonded railroads, and the statement there made is repeated, that to carry into effect the decision of the Supreme Court in the case of *The Central Pacific Railroad vs. United States*, would require a special appropriation of \$906,314.41. The same report specifies four railroads said to be in debt to the United States. With one of them, the Mobile and Ohio Railroad, a final settlement, directed by joint resolution of Congress approved February 12, 1887, resulted in the payment to the road of \$150,518.12. With the other three roads legislation for final settlement is recommended. The sum of \$70,000 is asked for in the estimates to cover the cost of transportation furnished to officers while traveling. The act making appropriations for the Army for the year 1888 requires that actual transpor-

tation shall be furnished by the Quartermaster's Department whenever practicable, and the amount appropriated for mileage was reduced \$70,000.

The cost of transportation of officers and men in changing station of troops and removing Indian prisoners from Arizona to Florida and Alabama, has amounted to \$254,971.05. Army telegraphing has cost \$4,558.39. The running expenses of vessels owned by the Department amount to \$100,271.67; three steamers have been sold, one burned, and one has been built at a cost of \$56,180. The average price paid for cavalry and artillery horses has been \$134.65; for draft-horses, \$210.65; and for mules, \$156.37. On June 30, 1887, there were on hand 8,776 cavalry and artillery horses, 435 team horses, 5,400 mules, and 6 oxen.

Of miscellaneous claims and accounts, 1,482, amounting to the sum of \$311,343.83, have been settled; leaving on hand 11,079 unsettled claims, amounting to \$8,380,960.81. Under the act of July 4, 1864, the investigation of claims presented by loyal citizens is nearly completed. During the past year 3,913 of such cases were decided, and few remain unadjusted.

Clothing was furnished to destitute Indian prisoners during the year at a cost of \$3,181.77. This imposed a tax upon an already limited appropriation, and Congress is urged to make provision for future contingencies. Tents valued at \$3,403.28 were sent to Charleston, S. C., to provide shelter for sufferers from the earthquake of September, 1886, and have never been returned. The national cemeteries, 82 in number, containing 324,536 interments, have been properly cared for. The roads authorized by Congress to such cemeteries have been either completed or are under construction.

SUBSISTENCE DEPARTMENT.

The report of the Commissary-General of Subsistence gives the usual statistical information concerning the transactions of the Subsistence Department for the fiscal year. The total resources for all purposes during the year were \$3,396,080.34. The sum of \$609,281.51 came from unexpended balances of various appropriations brought forward from previous fiscal years. The sum of \$1,745,000 was from the regular current appropriation for subsistence of the Army. The sum of \$819,560.54 was the proceeds of sales made to officers and enlisted men, and the remainder was the result of collections and odd amounts from various sources.

The disbursements amounted to \$2,574,190.24; and at the end of the fiscal year the sum of \$57,002.88 from old appropriations was carried to the surplus fund.

MEDICAL DEPARTMENT.

The Surgeon-General reports that the cost of medical supplies issued from July 1, 1886, to June 30, 1887, was \$159,366.95. This is less than the usual average, and his estimates for the current year call for \$224,000.

This amount includes \$4,000 for supplies for the hospital at Hot Springs, Ark., and \$38,000 for pay of employés of the Medical Department. He again urges as a measure of economy, as well as of convenience, that Congress be requested to authorize the purchase, after advertisement, of supplies costing less than \$500 without the formality of written contracts. In this request I concur, and reference is had to the last annual report, wherein an amendment to section 3709, Revised Statutes, is recommended.

The statistics show constant and satisfactory improvement in the health of the Army, indicated by steadily decreasing ratios in admissions to sick report, in loss of time from non-effectiveness and sickness, in deaths, and in discharges from disability. The principal causes of admission to sick report for the year have been injuries, diseases of the digestive system, diarrhea, and respiratory and malarial diseases, in the order named. Jefferson Barracks, Missouri, is mentioned as the station at which the greatest proportionate amount of sickness is reported. Total admissions to the sick report for the year aggregate 29,761, of which 5,329, or 17.09 per cent., were due to injuries. The deaths numbered 80, and the sick discharges 56, being 34.08 and 8.06 per cent., respectively, of all deaths and discharges, not including deaths occurring in action, or so suddenly as not to be included in cases medically treated.

Full reports are given in detail from all the medical divisions of the country, and the sanitary question has received full consideration from the commanding officers and the surgeons of the Army. Many of the measures recommended in this connection are sensible, practical, and can easily be carried out with the means at command. The improvement in the general health of the troops shows the attention given to this subject, but there is yet much to be done, especially in regard to water supply, bathing facilities, cess-pools, drains, and privies. These last are a fruitful source of disease. A comparison of the health of the United States Army with that of European armies shows a lower death-rate, less constant non-effective force, and less sick time to each soldier; and is unfavorable only in percentage of discharge for disability. The clothing is of good quality, well adapted to the colder regions of the North and to the winter months at the South; but is too thick and heavy and of unsuitable color for the intense heat of Southern summers. Changes are recommended to obviate this defect, which are approved and will be acted upon.

The work of the record and pension division of the Surgeon-General's Office has been much improved, and is now in a satisfactory condition. It had so far fallen in arrears that 9,511 unanswered calls from the Commissioner of Pensions for information relative to pension claims had accumulated in this office on December 13, 1886. Prior to that date a large number of cases were subjected to a delay of two and one-half and three months, and often for a longer period. This state of

hairs had been brought about by a combination of causes, the most important of which were defective methods of work, laxity of discipline, indifference and lack of interest on the part of some of the clerks, many of whom were inattentive to duty, inefficient, physically or mentally disabled, or otherwise incompetent. A belief seemed to pervade the whole Office that no improvement in the old system was either desirable or possible, and that any change made in it must necessarily be for the worse. To such an extent was this carried that the two principal officers responsible for this division were of opinion that for efficient and constant work it was necessary to have from two to ten thousand cases always on hand.

Repeated efforts by the Department to secure greater expedition having failed, it was deemed necessary to relieve the chief of the division and detail another officer in his place, which was done early in December; other changes were also made in the Bureau. In less than three months thereafter, the great arrearage which existed was entirely reduced. The methods of work were changed, at once increasing its volume without diminishing its accuracy; the discipline of the force was improved; thirty disabled clerks, who, for various reasons, were unfit for consideration, were assigned to such duties as they could efficiently perform with comfort to themselves; twenty worthless clerks were discharged, and it is now generally understood that the work of the office is of the first importance, to which personal preference and convenience must yield, and it has been clearly demonstrated that a large number of cases on hand is not essential to the efficient and economical employment of the clerks engaged on pension work. At the close of the fiscal year it was reported by the new chief of this division, Dr. Ainsworth, that any call for information from the records of the Surgeon-General's Office relative to pension claims could be answered in from one to three days from the date of its receipt.

The old hospital registers, to the number of 8,470 folios, have been copied. A new index system has been adopted whereby the hospital record of each sick and wounded soldier is entered upon a single card and can be found at once. The names of 168,687 soldiers have been thus entered already, and the work is rapidly progressing.

The new museum and library building is completed, and the valuable records of the Medical Bureau have been placed within its fire-proof walls. The annex for laboratory and anatomical work, authorized by act of Congress March 3, 1887, for which \$7,500 was appropriated, is in progress of erection and will probably be under cover by January, 1888. The total number of specimens in the museum on June 30, 1887, was 26,072, showing an increase of 2,123. An illustrated catalogue of the museum would be of great value to medical science; a large portion of it is already prepared, and authority from Congress to publish it is earnestly requested. The library contains 119,635 books and pamphlets, being 13,022 more than last year. A larger appropriation is ur-

gently required for binding. Volume VIII of the Index-Catalogue has been published, and the first part of Volume IX is in press.

The Hospital Corps, authorized by Congress by act of March 1, 1887, is now organized. As privates belonging to this corps frequently perform onerous and dangerous duties, the Surgeon-General recommends that their pay be increased by an addition of 20 cents per day. The contract made with the Providence Hospital of Washington, pursuant to act of Congress of August 4, 1886, for the treatment of seventy-five transient paupers has been well performed. The hospital at Hot Springs, Ark., was opened in January, 1887. It is already of great benefit to the Army and Navy, and liberal appropriations for its support are strongly recommended.

There are at present 16 medical officers absent on sick leave, nearly all of them totally incapacitated for active service. It is desirable they should be retired, but this can not be done, except by the enlargement of the retired list. The efficiency of the Medical Department is thus seriously affected, as but 179 surgeons are on duty. The employment of contract surgeons is not to be favored; indeed, it is unsatisfactory, and the policy has been to reduce their number. Since July, 1886, they have been reduced from 63 to 41 at the present time.

PAY DEPARTMENT.

During the past year the disbursements of the Pay Department of the Army amounted to \$14,230,356.86. This is a large increase over the sum paid out during the previous year, arising from the settlement of the claims for back pay and bounty brought by the soldiers of the late war.

For many years it has been the custom to pay the Army on the bi-monthly muster. Numerous requests have been made for more frequent payments, and in order to comply as far as practicable with this expressed desire, monthly payments were made at 33 posts in the vicinity of the stations of paymasters, and there appears to be a general wish that this system be extended to the more isolated posts. The services of 40 paymasters will be required to carry out this recommendation. Of the 45 officers now in the Department only 40 are available for duty, and before the close of the next fiscal year by the retirement of 3 officers now on active duty the number will be reduced to 37. To accomplish the object, the Paymaster-General recommends that the act of July 5, 1884, be so amended that the number of paymasters be limited to 40, and that any paymaster of the rank of major, after twenty years' service as a commissioned officer, shall, upon his own application or by direction of the President, be placed upon the retired-list. Unless my remarks as to the retired-list in another part of this report receive the favorable consideration of Congress, this last suggestion is not urged.

There is frequent clashing of authority between the War and Treasury departments in regard to payments directed by the former. To the great embarrassment of the disbursing officer, accounts are disallowed. The disallowance of payments made by and under such authority works great hardship to the disbursing officer, as on the one hand he is confronted with a charge of disobedience of orders, and on the other with assuming a liability for which either he or his sureties will be held pecuniarily responsible. In order to prevent this, I recommend that the powers of the respective Departments be clearly defined by a legislative act.

On the subject of paymasters' bonds, I quote the remarks of the Paymaster-General, with the recommendation that the change be extended to all officers of the Department and the Army who are required to give bond.

It is held by the accounting officers of the Treasury that each bond given by a paymaster is a continuing bond from the date of its approval so long as the officer is in service under his current commission, notwithstanding a new bond is required from him every four years or oftener if the interests of the service demand. Under such a ruling paymasters experience great difficulty in obtaining sureties. While a person may be willing to assume a responsibility which will extend through a limited period, he will hesitate to assume one to which no limit is fixed, and from which he can obtain no release. The legislation which has been enacted to remedy this evil in the matter of bonds of collectors of internal revenue (20 Stats., p. 327), and of postmasters (R. S., sec. 3827), should be extended to the bonds of paymasters. As a matter of relief to paymasters, I would further recommend that the bond of an approved guaranty company be accepted as security. The bonds of such companies are accepted by many of our leading railroad and express companies, banking and insurance institutions, for the faithful discharge of the financial trusts of their employes. If this facility were extended to paymasters the Department could then with propriety ask the enactment of the legislation necessary to require a paymaster to give a new bond within a specified date, or in the event of failure to declare his commission vacated. As the law now stands, the Department has no option in case an officer declines to give bonds, except to place him on waiting orders with full pay.

For the last fiscal year the amount appropriated for mileage of officers was \$130,000, being \$30,000 less than the appropriation for the previous year. Of the sum appropriated \$129,996.57 have been expended, thus leaving a balance of \$3.43, against which vouchers amounting to \$2,452.38 have been presented. For this deficit an estimate will be presented in due season.

For the current fiscal year the appropriation for mileage was still further reduced to \$85,000, with a proviso for payment of transportation on the certificate of officers that it was impracticable to obtain transportation from the Quartermaster's Department. No appropriation was made in specific terms to the Quartermaster's Department from which to pay for this transportation, and the appropriation for mileage for the current fiscal year will be exhausted before the 31st of December next.

ENGINEER BUREAU.

During the past year no work has been done in connection with fortifications, as no appropriation for this purpose has been made since 1885.

The existing works, many of which are of value for the defense of our harbors, are in a dilapidated condition, and extensive repairs are necessary for their preservation.

The importance of immediate action looking to the reconstruction of the defenses of our sea-coast and lake frontier was fully set forth in my annual report of last year. Should the funds now asked for, \$5,234,000, be appropriated by Congress, it is proposed to apply them to the construction of earthen gun and mortar batteries, which form by far the greater part of our projected defenses, and in which the question of armor is not involved; and also to the completion of our system of submarine mines, the details of which have been perfected. The works at present in contemplation are for the defense of the harbors at Portland, Boston, Narragansett Bay, New York, Philadelphia, Baltimore, Hampton Roads, Washington, New Orleans, and San Francisco. There appears to be no reason for further delay in beginning the important work of fortifying these great harbors.

Special attention is invited to the needs of the Engineer School of Application at Willets Point. At this establishment our system of submarine defense has been determined on, and experiments connected with torpedoes are still in progress. Officers of engineers and artillery have received the thorough technical instruction which is absolutely necessary for the successful conduct of torpedo warfare, and the officers and enlisted men of the Battalion of Engineers are trained in the duties which belong to that branch of the service. The importance of the Battalion of Engineer Troops as a Torpedo Corps, practiced in the rapid and certain planting of submarine mines, can not be too strongly enforced. In order that this school may continue to perform its work with efficiency, the appropriations requested in the estimates already submitted to Congress should be made.

The works for the improvement of rivers and harbors have been prosecuted during the past fiscal year by funds derived from the appropriations of the act of August 5, 1886, together with such balances as were on hand from previous appropriations. The report of the Chief of Engineers sets forth the condition of each improvement, the extent of the work performed during the last fiscal year, and the amount of money expended. In compliance with the provisions of the river and harbor act of March 2, 1867, estimates are presented of the amount that can be profitably expended during the fiscal year ending June 30, 1889, together with the probable cost of completion. The reports of examinations and surveys for improvements at places required and provided for in the river and harbor act of August 5, 1886, so far as received, will be found in the report of the Chief of Engineers. Of those still in progress the results will be transmitted to Congress from time to time during the ensuing session. The reports of the special boards of engineer officers appointed under the same act to ascertain the value and commercial importance of the works and property of the Green and Barren River

Navigation Company in Kentucky, of the Monongahela Navigation Company in Pennsylvania, of the two water-ways across Keweenaw Point by the way of Portage River and Lake Michigan, of the Illinois and Michigan Canal, of the construction of the proposed Hennepin Canal in Illinois, and of the Sturgeon Bay and Lake Michigan Canal in Wisconsin, were transmitted to Congress at its last session.

The statement is given in the report of the Chief of Engineers of the action taken during the last fiscal year upon plans and locations of bridges proposed to be built over navigable waters under authority of Congress and subject to the approval of the Secretary of War. Examinations were also made, whenever requested by committees of Congress, of proposed bills authorizing the construction of bridges, upon which the views of the War Department were desired. A statement is also given of the work accomplished in the removal of wrecks obstructing and endangering navigation, for which provision is made in the river and harbor act of June 14, 1880, and enlarged by the river and harbor act of August 2, 1882.

Under section 4 of the river and harbor act of August 5, 1886, which requires the Secretary of War to report to Congress whether any bridges, causeways, or structures, erected or in process of erection, interfere with free and safe navigation, and, if so, to report the best mode of altering or constructing the same, the Chief of Engineers was directed to report thereon, as required by the act. A communication, enumerating all instances of interference with free and safe navigation, was transmitted to the Senate February 24, 1887. Attention is again called to the urgent necessity for legislation by Congress to prevent the obstruction of the navigable waters of the United States. The reasons for such legislation are set forth in the reports of 1885 and 1886.

The joint resolution of Congress of February 21, 1871, directed the Secretary of War to have water-gauges established and observations made of the rise and fall of the Lower Mississippi and its chief tributaries. This information, for the protection of alluvial lands against overflow and for the improvement of navigation, requires an annual appropriation of \$5,000, which has usually been made in the act providing for the improvement of rivers and harbors. No river and harbor act was passed for the present fiscal year, and these observations cannot be continued unless the keepers of gauges volunteer their services. As the observations lose their value and usefulness unless continuous, it is recommended that an appropriation for this expense be at once made by Congress.

The small appropriation stated in the estimates for surveys required for military purposes, for the publication of maps, including lake charts and local surveys, and for additions to the engraved plates for the use of the War Department, is earnestly recommended. Attention is also invited to the report upon the construction of roads and bridges in the Yellowstone National Park, and to the necessity for further appropriations for this purpose.

IMPROVEMENT OF SOUTH PASS, MISSISSIPPI RIVER.

In the last annual report of the Department the record of this work was brought down to September 26, 1886. The channel has since been maintained, as required by law, for a full year, to September 29, 1887, for which payments have been made amounting to \$100,000, and also \$50,000 for one year's interest on the \$1,000,000 retained, making the total expenditures to September 29, 1887, inclusive, \$5,450,000. During three days of this time there was not a legal maintenance of the channel, for which period no payment has been made. The river and harbor appropriation bill having failed for this year, and no special provision having been made to pay for the surveys and examinations required by law for testing the depth of the water and width of channel at the South Pass, the work is left in an anomalous condition. The law requires these surveys that payment may be made for the legal maintenance of the channel; it is therefore recommended that the appropriation for the expenses be provided at once by Congress. The amount now required to meet deficiencies, and for the year ending June 30, 1889, is \$27,470. The rules and regulations for the navigation of South Pass have no force in law, and provision for their enforcement should be made by Congress.

A detailed statement showing the payments made to December 1, 1887, and to be made under the contract with Mr. Eads, is appended to this report.

WATER SUPPLY OF WASHINGTON, D. C.

The dam across the Potomac River at Great Falls was completed in August, 1886. As finished, this is a solid masonry structure 2,877 feet long, varying in height from 4 to 20 feet, all solidly backed with riprap.

The excavation of the tunnel has been completed, and the work of lining with masonry has advanced in its total length 8,767 feet, leaving 11,929 feet, all, or nearly all, of which must be lined. The completion of the work of excavation has developed the necessity of putting in much more lining than was contemplated. The cost is also increased beyond the price named in the estimate, on the recommendation of the Board of Engineers designated by Congress to determine the proper character of the lining; and it is now estimated that \$820,000 will be required to complete the work.

Work on the reservoir has been in progress during most of the year, and has now approached completion. The money on hand will probably be found sufficient for putting the reservoir in condition to receive the water supply. The appropriation at the earliest possible moment of the amount required to complete the work on the tunnel is urgently recommended.

THE POTOMAC FLATS.

Upon the Potomac Flats 5,314,000 cubic yards of material have been deposited, thus raising an area of 461 acres of marsh to a height of from 4 to 10 feet above mean low tide.

The Long Bridge is a serious obstruction to the flow of water beneath it, and will eventually cause a deposit of sediment in the river above. The bridge should be rebuilt in accordance with proper plans, and some definite action by Congress in regard to this is desirable. Provision should be made at an early day for retaining-walls to the sewer canal. The estimated cost of such walls built of concrete is \$208,144.

On June 30, 1887, the sum of \$985,841.01 had been expended on these flats, and the cost of the completion of the improvement is estimated at \$1,441,365. For the year ending June 30, 1889, an appropriation of \$600,000 is recommended.

ORDNANCE DEPARTMENT.

During the fiscal year ending June 30, 1887, 41,106 rifles and carbines were manufactured at the National Armory.

The question of a reduced caliber for small-arms is now under careful consideration and experiment by the Department; and while the present caliber, .45, meets the demands of the service in a satisfactory manner, and was adopted fifteen years ago after extended tests, the interest awakened in the military world justifies a further examination and report upon this subject. A magazine gun has become a necessity, and during many years the Department has endeavored to find one that would give satisfaction to the Army. From what we learn of the magazine systems abroad, nothing is to be gained by haste, and the Springfield rifle must continue to serve our purpose until a magazine gun, that will do credit to the inventive genius of our people, is adopted. It is to be observed that under the existing law, Revised Statutes, section 1672, only the Springfield guns can be manufactured by this Department. We are unable, therefore, to make magazine guns, and can only test and examine the magazine guns and systems brought to the Department by dealers or inventors. It is very desirable that this statute should be so far modified that we can purchase or manufacture magazine guns for experiment and trial.

The orders of the War Department, respecting rifle practice throughout the Army, have taxed to the full our resources in ammunition and target supplies. The reserve supply of rifle cartridges on hand on the 30th of June last was small, but the Army and country have been amply repaid for this expenditure of ammunition at the military posts by the great success attending the annual competitions. Larger appropriations for ammunition and target material are asked for. A matter so necessary to the effectiveness of our small Army deserves the favorable consideration of Congress.

Congress at its last session passed an act to amend Revised Statutes, section 1661, making an annual appropriation to provide arms and equipments for the militia. The act increases the annual appropriation made by the act of 1808 from \$200,000 to \$400,000, and adds quartermasters' stores and camp equipage to the issues authorized. It also provides

for apportionment under certain conditions and rules; for the purchase or manufacture of the stores to be issued; for accountability for the same, and for the disposition of unserviceable and unsuitable stores in the hands of the militia. These provisions of law will have a tendency to place the militia on a proper footing, and encourage an efficient organization throughout the country.

The failure of Congress at its last session to pass a regular appropriation bill for the armament of fortifications has embarrassed the Department in its operations, and little has been done towards procuring guns, powder, carriages, projectiles, etc., for coast defense. Several experimental pieces that were under fabrication at the date of the last report of the Secretary of War have been completed, and some tests of ordnance have been made at the proving-ground. The powder and projectiles used in these experiments were furnished under contracts made prior to June 30, 1886.

The 12-inch B. L. rifled cast-iron mortar, hooped with steel, has been completed and subjected with satisfactory results to preliminary firing. With a charge of 65 pounds of hexagonal powder and a shell of 625 pounds, a range of 9,385 yards, or $5\frac{1}{4}$ miles, was obtained under an elevation of 45 degrees; and still better results are now obtained with Brown prismatic powder of American manufacture. It is believed that a record for accuracy of fire and endurance will be obtained from this piece early in the coming winter whereby the relative merits of breech-loading and muzzle-loading mortars can be determined. In view of the large number of 12-inch mortars required for coast defense, and from the fact that there are several manufacturers who can supply mortars of cast iron banded with steel—already tested with satisfactory results as regards endurance—the sum of \$500,000 has been included in the estimates to procure 12-inch rifled mortars of a similar type, breech-loading or muzzle-loading, as the trials may show the superiority of one over the other. This money should procure from fifty to sixty mortars.

The test of the 8-inch B. L. steel rifle, which was begun last year, has been pushed as fast as suitable powder could be procured. The manufacture of Brown powder is a new industry in this country, and it is natural that failures and delay should occur in the earlier stages of its development. Thus far this 8-inch gun has been fired 102 rounds; of which number 2 rounds were with 65-pound charges, 12 rounds with 85-pound charges, 2 rounds with 95-pound charges, and 84 rounds with charges of from 100 to 113 pounds weight. The weights of projectile used have been 7 rounds with 182-pound shot, 4 rounds with 235-pound shot, 1 round with 250-pound shot, and 88 rounds with shot of from 286 to 302 pounds weight. In these firings the gun has been
 from 33,000 to 37,000 pounds per square inch
 to pressures exceeding 40,000 pounds,
 . A careful examination of the

hereafter the one hundredth round showed no appreciable enlargement, except the usual enlargement near the bottom of the rifling, due to the forcing of the projectile, while the forward slope of the chamber and the commencement of the rifling, which are the parts first affected, show no traces whatever of erosion, and the condition of the gun is apparently perfect. In this connection it may be stated that in firing the 12-inch B. L. cast-iron rifle, in which a relatively lighter charge and projectile were employed, and with powder pressures that were generally under 30,000 pounds, the average for 100 rounds being only 28,000 pounds, erosions began at the fiftieth round, which became very pronounced at the ninety-sixth round. The ballistic results from this 8-inch gun—that is to say, the energy developed in the projectile—are said by the Chief of Ordnance to exceed the published result of any gun of like caliber extant. As regards accuracy, it was ascertained on a range of 3,000 yards, or nearly $1\frac{3}{4}$ miles, that the centers of all the shot-holes were contained within a circle of $6\frac{1}{2}$ feet diameter.

The forgings for one 8-inch and one 10-inch B. L. steel rifle have been received and accepted, and the manufacture of both will be at once begun. All the forgings for this 8-inch gun were manufactured by the Midvale Steel Company, the jacket and tube forgings being the largest yet made in this country. The jacket, tube, and trunnion hoop for the 10-inch gun were procured from Sir Joseph Whitworth & Co., Manchester, England; the hoops were made by the Cambria Iron Works, and were required to pass the same standard, as to physical quality, as the hoops for the 8-inch rifle. In the manufacture of the 8-inch rifle forgings, a satisfactory jacket was only obtained after repeated failures and repeated treatment of the metal, owing to the inadequacy of the present plant at the Midvale Steel Works. But the manufacturers triumphed at last over their limitations—a thorough knowledge of their art enabling them to succeed in spite of inadequate facilities.

In the development of our steel industry another encouraging sign is the early success of the Cambria Iron Works. As its first venture in ordnance work, this establishment undertook the production of the forged hoops for a 10-inch steel rifle, and the terms of the contract, notwithstanding the very high standard of excellence required, were fully complied with. Equal success attended the forgings for a 7-inch howitzer, including the tube, jacket, and the forged trunnion hoop, all of the quality prescribed. The Department has demanded high standards for the quality of gun steel, but experience has proved the ability of our steel makers to produce the metal. The ordeal of firing has demonstrated the character of the guns thus made. With larger experience, increased facilities, and a sufficient demand to invite competition, it is reasonable to expect that both the difficulties and cost of production will be reduced. An instance of this was noted in the last contract for 3.2-inch gun forgings. The standard for quality was higher than in

the previous contract, and yet for the same number and kind of forgings the cost was less.

In view of the success attained by our steel makers, it is apparent that the assurance that the outlay for the necessary plant will prove remunerative is all that is required to produce in this country the largest gun forgings of suitable quality. It is believed to be of vital importance that appropriations be annually made by Congress until our present need of modern guns is supplied and the aid that our steel industry demands is assured. As a step in this direction an appropriation of \$1,500,000 for the forgings of 8-inch and 10-inch B. L. steel guns has been recommended in the estimates. This sum would procure the steel for about fifty 8-inch and forty 10-inch guns, and should be made available until expended. In this connection the Chief of Ordnance remarks as follows:

It is not necessary to enter into a discussion of the necessity for sea-coast armament, nor of the possibility of future disbandment of armies and the settlement of international controversies with the pen instead of the sword. What may be in the near or distant future in this regard the most astute statesman can not divine. Our dealings, however, are with the immediate present, and if the recurrence of wars are likely to follow ample preparation, Europe in arms would seem to indicate that the days of peaceful arbitration have not yet been reached. It can hardly be recommended that while waiting for this future possibility our shores should continue unguarded and at the mercy of the most insignificant belligerent. Rams and torpedoes and dynamite guns are powerful auxiliaries in harbor defense, but the war conditions yet obtaining will not dispense with the hard hammering of heavy shot moving with high velocity, because these auxiliaries themselves need protection of a most perfect character. The dynamite guns with a limited range can not be left to the mercy of the much longer-reaching guns of the enemy's ships. The attacking ships must be kept at a distance by heavy guns and long-range mortars, the comparatively low cost of mortars enabling us to compensate by numbers for any lack of accuracy of fire. As a projectile force gunpowder yet stands supreme. It strikes its terrific blow at long distances; its arm reaches many miles; it plants its blows with unerring certainty. We can not dispense with such a force, so readily handled, so thoroughly understood. Heavy cannon are therefore a necessity, and must be provided, and our unprotected coasts demand that they be provided speedily. These necessities also demand that they be of the most approved quality; cannon of steel, which have been adopted by the world after most thorough and satisfactory experiment and trial; cannon that will place this nation on an equality with the most powerful. It will cost money, but not more than the loss to the cities of New York and Brooklyn from one day's bombardment. * * * The positive and practical experience of the Midvale Works and the Cambria Works is to the extent of their facilities equal to that of foreign establishments, and these results are in a large degree the outcome of high standards, close specifications, and most rigid supervision and inspection, enforced by this Department. I venture the opinion that such important work can not be intrusted to better or more skillful hands than to the officers of the Ordnance Department of the Army.

Carriages for heavy cannon present a difficult problem which the best minds in this country and abroad have labored to solve and thus to satisfy all conditions of emplacement, weights of heavy cannon, and of all forces generated by explosives. With the increase in size and weight of cannon, man power, in the management of such man-

to steam, compressed air, and hydraulic force. A trial of the improved Powlett carriage should be authorized. It was first tried by this Department, and its favorable action induced further trial by the Navy Department. The conditions differ so much in the two Departments that appropriations for renewed trials by this Department are recommended.

The dynamite torpedo gun has been so far perfected that it is practicable, by means of compressed air, to project to a considerable distance shells charged with high explosives, with a safety, certainty, and accuracy of fire, which render it a source of great danger to ships. More than this, an electric fuse, capable of being fired by contact with salt water, has been devised and tested with promising success. As a weapon for coast defense this would more than double the value of the gun. If charges of 500 pounds of explosive gelatine or dynamite can be projected from 2 to 3 miles, and exploded after entering the water, below the armor protection under or near the hull of a ship, the most destructive effects may result on ships as now constructed. Though, with perhaps less certainty of action, the result is much the same as that sought in defending a channel by fixed mines. There is the obvious advantage of being able to shift the location of the "torpedo field" to any point within range taken up by the enemy's ship. Thus the latter is placed at the disadvantage of being compelled to cruise over an area beset with submarine mines while within range of the gun. The two systems would thus supplement each other with a powerful combination of explosives, and become a most essential adjunct to the heavy guns of great range and power, which are, as armor-piercing weapons the basis of all armament for coast defense.

The purchase of one of these guns of 15-inch caliber is recommended, in order to determine the full extent of their fitness for coast defenses. The first of these guns was designed and constructed by Mr. Mefford, of Ohio, in 1883, and was brought to Fort Hamilton, N. Y., for trial in January, 1884. On March 15, 1884, on an application from the parties interested, the Secretary of War, in a letter to General Hancock, directed that "as the trials of this gun have been conducted thus far under the direction of Colonel Hamilton, they should be continued under him, assisted by Lieutenant Zalinski." The last-named officer has since that time been on this detached duty actively engaged in experimenting with and developing this gun. A board of officers was appointed January 26, 1886, by the Secretary of War, for the purpose of witnessing trials of this dynamite gun at Fort Hamilton, and of reporting upon its merits for the military service. Those interested in the gun failed to make the necessary arrangements for the proposed trials, and the board was ultimately dissolved without making any report.

During the year further experiments have been made, at the ordnance proving grounds, with shells charged with high explosives, which have

been fired from ordinary cannon by means of gunpowder. Among the devices meriting favorable mention is a shell invented by Mr. B. D. Stevens, of Burlington, Vt. The Department has experimented at Sandy Hook upon a method of preparing high explosives for shells invented by Mr. Smolianinoff, and also upon a new device by Mr. Graydon, formerly of the Navy, for the same purpose. Further trials will be made with these inventions to determine their absolute merits.

With regard to siege material, the 5-inch breech-loading siege gun and its carriage and the 7-inch breech-loading howitzer have been completed and sent from the Watertown Arsenal to the proving grounds. When the powders and projectiles required for their trials are procured both these guns will be tested.

During the past year twenty-five 3.2-inch breech-loading steel field guns, of the model tested in 1885 and recommended for issue to the service by the Board for testing rifled cannon and projectiles, have been completed. Twenty-five new steel gun-carriages have been made at the National Armory. The Midvale Steel Company is making the forgings of twenty-five additional 3.2 guns, and carriages are being manufactured at the National Armory. An improved limber, caisson, battery-wagon, and forge, for these guns, are in process of construction. In the estimates for the next fiscal year an appropriation has been asked of \$225,000 for the purchase of steel guns, their carriages and ammunition. This is a small sum, but it will procure not less than sixty steel guns fully equipped and supplied with ammunition, and taking the 3.2-inch guns now on hand and under manufacture into consideration, it would insure the full and proper equipment of about one hundred field guns. This appropriation is absolutely demanded. We have nothing but smooth-bores and rifled muzzle-loading guns used during the late war. New guns are required in order to maintain the efficiency and discipline of our artillery regiments. It is discouraging and demoralizing to spend time and work on guns which every private knows are antiquated and obsolete, and could never be used in war. Indeed, to use them in war against the improved field batteries of other nations would put our troops at terrible disadvantage.

With a view of completing unfinished gun-work on hand and providing for the manufacture of guns, the Department, last spring, took steps to ascertain the extent of its available tools and machinery for gun work, and to select the best arsenal at which to concentrate them. With this object in view the Secretary of War appointed a Board of ordnance officers, who made a careful examination of the tools and machinery on hand, and of Watervliet and Frankford Arsenals, with reference to the concentration of the plant for gun-work, and reached this conclusion: "The Board is of the opinion that Watervliet Arsenal is better adapted than Frankford for the concentration and installation of the present gun plant of the Department and for the establishment of a fully equipped gun factory." In the annual estimates a small appro-

priation has been asked to supply some additions to the plant now collected at this arsenal, such as railway tracks, a bridge across the canal, additional water-power, a loading crane, etc. These will complete the present plant, and enable the Department to make small guns, and experimental and type guns of large size, probably up to 12 inches caliber. Should Congress, however, act favorably on the recommendations of the Department and appropriate \$1,500,000 for steel gun-forgings, then a further appropriation of \$550,000, for properly equipped shops, adequate to manufacture of guns in quantity, would be required.

THE CHIEF SIGNAL OFFICER.

On March 3, 1887, Capt. A. W. Greely, of the Fifth Cavalry, was appointed to the office of Chief Signal Officer, made vacant by the death of Brig. Gen. William B. Hazen. In his report the Chief Signal Officer calls especial attention to the Signal Service proper, which for many years has been neglected in favor of meteorological observations. The appropriations have been inadequate to provide the necessary material or to permit the necessary study and practice in military signaling, not amounting to one-fifth of what is required simply for station equipments. He is of opinion that the officers of the Signal Service should be the instructors of the Army in military signaling. Special training and drill are indispensable for success in this branch of duty, and can be obtained only under competent instructors. To secure these requisites he advises that regular courses of instruction should be established, under officers of the Signal Corps, at the great schools of the Army at Forts Leavenworth, Monroe, and Riley.

Both the tendency of legislation and the demands of the Weather Bureau have led the Signal Service further and further away from military duties, to scientific and meteorological observations and labors, which grow and extend with each year. Even if its semi-military organization should continue, it is obvious that it must be devoted eventually to meteorological and kindred scientific studies alone. In view of this prospect, the Army has ceased to place reliance on the Signal Corps, but provides for its own instruction in military signaling. It is taught at West Point, at the schools of instruction, and at all Army posts. In 1885 General Hazen recommended a more military organization of his Bureau by adding a colonel and lieutenant-colonel, a major, and eight captains, and in the report of that year the recommendation was disapproved by the Secretary of War, as follows :

The duties in which the corps is now engaged are civil and not military. It performs no military service; its only exercise that is military in its character is the art of military signaling, which, owing to the pressure of meteorological duties, has been neglected in the past, though it is proposed to press the study more vigorously in the future. Nor is this study as pursued in the corps important to the Army, which receives, through its own officers, all the necessary instruction. It is evident that the studies and labors of the Signal Service in the scientific field upon which it has entered will more and more absorb and engross its energies, and it must ultimately be-

come a purely civil organization. It would, therefore, be unwise, with this prospect before us, to provide for its permanent attachment to the Army, and to give to it the unbending organization and discipline of a military body. It must depend upon the efforts of men who are engaged in technical study, and any officer who takes part in its work must be valuable for his studious and scientific labor, rather than for his military ability and his soldierly qualities.

The meteorological reports of the Signal Service are of great value to the public, but the want of means has impaired the efficiency of this branch, and retarded its growth and improvement. Private organizations have, however, to some degree remedied its defects. Weather forecasts, cold wave and storm warnings have been issued regularly, and with tolerable accuracy. Special training, experience, and a peculiar aptitude are required for this work, and it has not always been possible to detail officers possessing the necessary qualifications. On the Pacific coast the service has suffered from defective telegraphic communication at certain points, which has prevented timely receipt of indications, but here, as elsewhere, private enterprise has liberally aided the efforts of the Government.

An "indications" post has been established at Saint Paul, Minn., and it will be not only a relief to the central office, but a benefit to the great Northwest, where early forecasts of cold waves are of the first importance. The issue of weather forecasts has been hampered by want of means, but recent concessions on the part of the Western Union Telegraph Company will assist the service while volunteer stations are being established in great numbers at a merely nominal cost probably from 700 to 800 will be in operation during the coming year. Whenever unusual conditions of the weather have made it desirable, special bulletins have been issued. A weekly crop bulletin has been started recently, showing the effect of the weather for the previous week on growing crops.

The Weather Review and the Summary of International Meteorology have appeared monthly, but the reduction of the appropriation compels the Chief Signal Officer to suspend, at the end of the calendar year, the publication of simultaneous observations agreed upon at the Vienna International Conference. This is to be regretted, but a study of the observations made during the past ten years will enable the Signal Office to prepare charts showing the normal weather conditions for each month of the year, and marking the limits of ice dangerous to transatlantic navigation. An effort will also be made to predict, several days in advance, the approach of the dense fogs off Newfoundland, and thus enable Atlantic steamers to avoid them.

Data relating to thunder-storms and tornadoes have been collected, but it has not seemed advisable to attempt predictions regarding the latter. As to thunder-storms, the Signal Office has preferred to assist and co-operate with local societies, whose investigations on the subject have been more complete than its own. The railway bulletins have

increased, being no longer necessary in many quarters; but the office will furnish indications whenever they are wanted.

The Signal Office has given its hearty co-operation to the meteorological bureaus of France and England, as promised by the Secretary of War. Data as to observations, storms, gales, derelict wrecks, ice, &c., are cabled each night to Paris, and the united information of the three countries is telegraphed at the expense of France and England. As the United States are benefited by this information, we should share the expense, and the Chief Signal Officer recommends an appropriation not to exceed \$1,000 annually for the purpose. In addition to the New England Meteorological Society, 19 State weather services have been established, and others are being organized, to the advantage of local and national interests. With all of them the Chief Signal Officer endeavors heartily to co-operate.

The disastrous river floods of the past few years show the importance of river observations. Sixty-nine river stations are in operation, and it is believed that a system may be devised that will permit the prediction, many days in advance, of any great flood. Meanwhile all important river gauges have been put in order and rain-fall stations have been established. At present 132 cotton-region stations are in operation. Increase in the number has been urged, but no funds are available for the purpose.

The system of special display stations has been revised and the expenses reduced. There are now 65 special stations, in addition to 50 regular stations on the sea-coast and the Great Lakes. The excellence of this work has been impaired by the necessity of employing new men insufficiently trained. A deficiency estimate for cost of furniture required at these stations is renewed, and again recommended.

The telegraphic lines belonging to the United States have, in addition to services rendered the Government, paid into the Treasury \$8,070.55, and the value of free business transacted amounts to \$8,685.54. The military telegraphic lines have proved to be not only useful, but in many cases indispensable to the Army, and every effort has been made to keep them in good order. Estimates have been reduced, as some of the lines have been abandoned. The sea-coast telegraphic lines between Nantucket Island and the mainland, Hatteras and Norfolk, Wilmington and Southport, Narragansett Pier and Block Island are all in good order. The lines on the Pacific coast have been unserviceable during much of the year from lack of money to keep them in repair.

Private instruments are no longer tested at the Signal Office, save in cases involving scientific or other important interests. The Chief Signal Officer recommends that Congress authorize, at the discretion of the Secretary of War, the sale of instruments of guaranteed accuracy.

The catalogue of the Bibliography of Meteorology will be soon completed, and provision should be made for its publication. It is a work of great practical and scientific importance. Its preparation has cost

about \$15,000, and its publication will require about \$10,000. The library contains 9,845 volumes, and accommodation must be provided to save it from injury. The record division, established this year, renders good service by simplifying research for meteorological data. It is also desired that Congress provide for the publication of the scientific treatises and original researches made in the Department.

As a necessary and economic measure, the Chief Signal Officer advises the purchase of suitable premises for his department, according to plans already suggested. In this I concur, as a measure of economy, and for the interest of the service and safety of the records.

The estimates for the year ending June 30, 1889, are \$80,155.57 less than for the past year. A regular and proper organization of the Signal Corps would increase its efficiency and materially reduce its expenses.

RECORDS OF THE WAR OF THE REBELLION.

This work is still confined to the first series of volumes. During the past year, Volumes XVII, Part II, XVIII and XII, Part II, supplement, (the latter containing the record of the Fitz John Porter court-martial), have been distributed. Volume XIX, Parts I and II, is ready for distribution, and Volume XX is nearly finished. Volume XXVI, Parts I and II, has been stereotyped, and Volume XXVII, Part I, is being stereotyped. The manuscript of Volumes XXXIV, XXXV, and XXXVIII are ready for the printer. Volumes XXX, XXXVI, and XXXVII are still incomplete. On October 5, 1887, the balance of funds available for this work, including the appropriation for the fiscal year ending June 30, 1888, and deducting expenditures and outstanding debts, is estimated at \$32,021.24.

THE SOLDIERS' HOME.

At the Soldiers' Home during the year permanent improvements have been made. An extension to the main building, together with a boiler-house, including steam heating and cooking apparatus, will provide additional quarters. The total cost will be \$225,363.47. The work is progressing, and at the end of another season will be finished.

A detailed statement of the financial condition of the Home is given by the commissioners. The annual income is estimated at \$125,000, and the average expenditure at \$200,000. Unless other provision is made the deficit of \$75,000 must be yearly withdrawn from the invested funds. In the future, necessary repairs and extensions will increase this drain upon their capital. To obviate this evil the governor of the Home suggests that Congress shall provide by law for the payment of interest from July 1, 1880, on all sums found due to the Home prior to that date, and for interest from maturity on sums falling due since that date. This would be a large concession on the part of the Home, and advantageous for the Government of the United States, for the accounts in process of computation and settlement go back to 1861, and large

accounts are due which have for a long period been withheld. The commissioners, however, recommend it as for the best interests of the Home, and worthy of the attention of Congress.

On September 30, 1887, there were 934 regular and 57 temporary inmates. The governor sets forth the evils attending the operation of the law which gives an inmate his pension as well as supplies all his wants. He repeats his recommendation, and in this he is supported by the commissioners, that inmates having twenty or more years of Army service retain their pension; that others having less service surrender a portion of their pension, and that those having less than ten years' service surrender their whole pension. The law creates two classes of inmates—one receiving from the Government \$1 per month and support, the other receiving a pension varying in amount from \$2 to \$40 per month and support. This causes constant trouble and dissatisfaction among the inmates, and adds greatly to the difficulties of management.

In his report the Inspector-General says that the administration of the Home has been faithful and efficient; the buildings and grounds are in excellent order; the food is ample and good; the inmates are comfortable and their number is increasing. The farm, dairy, and garden furnish vegetables, milk, and food. For the health of the invalids these are necessary articles. The farm pays a profit of \$3,000; the dairy is self-supporting, and with the garden furnishes occupation to men who would otherwise be without employment.

REPORT OF THE BOARD OF EXAMINERS ON STATE CLAIMS UNDER ACT OF JUNE 27, 1887.

This Board, convened October 6, 1886, has examined and reported upon a claim of the State of Nevada, which has been sent to the Secretary of the Treasury, as required by the statute. It will soon complete and transmit its report on the claim of the State of Texas for \$2,938,623.72. The claims of the other States and Territories will be considered in order. It was found that the claim of the State of Oregon for \$390,820.10 related to claims arising during the war of the rebellion, and did not come within the provisions of this act. On November 12, 1887, it was accordingly transmitted to the Treasury Department for settlement under the act of July 27, 1861, by the accounting officers.

BUILDING FOR STATE, WAR, AND NAVY DEPARTMENTS.

The State, War, and Navy Building is now substantially finished. It was begun by the construction of the south wing, now occupied by the State Department, which was erected at a cost of \$3,373,939.35, between June 21, 1871, and December 31, 1875. The eastern wing, now occupied by the Navy Department, was built at a cost of \$2,672,287.43, between July 14, 1872, and April 16, 1879. The northern wing, now occupied by the War Department, cost the sum of \$1,914,501.99, and was built between May 22, 1879, and December 23, 1882.

The western and central wings, the erection of which was begun February 18, 1884, are substantially completed at the present time and will be ready for occupation early in 1888. The cost of these two wings will not exceed \$2,163,478.61. Under the legislative bill approved March 3, 1887, these two wings are to be occupied entirely by the force of this Department.

THE STATUE OF PRESIDENT GARFIELD.

Under authority conferred by the act of July 7, 1884, the Commission having selected the site at the intersection of Maryland avenue and First street, southwest, placed thereon the statue of the late President James Abram Garfield. On the 12th of May, 1887, in the presence of the President, the statue was unveiled with suitable ceremonies.

STATUE OF GENERAL LA FAYETTE.

The commission to erect a statue to the memory of General La Fayette and his compatriots received seven models for the monument. The commission selected the monument jointly designed by two Frenchmen, Mr. A. Mercié and Mr. A. Falguière, both of Paris. These gentlemen are among the most distinguished sculptors in France, and agree to devote their united energies to the successful execution of the work. In conformity with the stipulations of the act of March 3, 1885, the basis of an agreement for the erection of a monument has been concluded, and the formal contract has been forwarded to the United States minister at Paris for execution by the sculptors. Two years from the date of the contract are allowed for its completion. The design embraces an heroic statue in bronze of La Fayette, upon a marble pedestal, around the base of which are to be grouped four of his compatriots. The names of the four Frenchmen have not yet been definitely decided upon, nor has a site for the statue been selected.

CLERICAL FORCE.

In closing this report, I desire to refer to the faithful and efficient services rendered by the clerical force. Among 1,500 employes there is undoubtedly a percentage of incompetent or useless clerks, but this element is rapidly disappearing and what remains does not materially affect the efficiency of the Department. A statement of the total absence of each clerk since January 1, 1886, shows the average absence from all causes, namely, with leave, on account of sickness, without pay, without permission, and in consequence of short absences with permission, to be 33.9 days for 1886, and but 9.2 days for the first six months of this year. Many clerks did not avail themselves of the full 30 days' leave. The result of the examinations for promotion under the civil service regulations, which were applied to the War Department in May, were satisfactory. The total number of clerks examined was 1,014, of whom

8, or 95 per cent., passed, and of this number 353, or 35 per cent., attained an average above 90 per cent.; 51, or 5 per cent., failed to pass, their average being less than 75 per cent.

Owing to the large accumulation of work during the past year, the clerks were required to work extra hours in the offices of the Adjutant-General and Surgeon-General. The work, however, continues to increase, and is in arrears in some of the offices, and, although the clerks work faithfully, recourse must again be had to extra hours unless additional force is authorized. Extra hours, if constantly resorted to, will certainly result in the deterioration of the working force, and as a natural consequence the work performed will probably not exceed that now performed in the hours prescribed by law.

This increase of work in the Department is partly a natural growth, keeping pace with the growth of the country; but of late it has been enlarged in certain directions and has been stimulated by recent legislation, as in the matter of bridges over navigable waters; the distribution of the appropriation for arming and equipping the militia, which is doubled; the determination of what articles of private property lost by officers and enlisted men of the Army are to be paid for; the adjustment of claims of volunteer officers for remuster and of enlisted men for the removal of the charge of desertion; the distribution of 11,000 copies of each volume of the Official Records of the War of the Rebellion; the work consequent upon pension matters; the answering of the largely increased number of calls from the Court of Claims, which have recently been very numerous—these all come under the War Department, and require the personal attention of the Secretary of War.

I therefore renew the recommendations contained in my previous reports and in those of my predecessor for the appointment of an Assistant Secretary of War and of an Assistant Attorney-General to advise and assist in the legal and technical questions which daily occur. I must also refer to former recommendations for the reorganization of the force of this office, the estimates for which, it is hoped, will receive the favorable consideration of Congress.

WILLIAM C. ENDICOTT,
Secretary of War.

P A P E R S

ACCOMPANYING

THE REPORT OF THE SECRETARY OF WAR

REPORT OF THE LIEUTENANT-GENERAL OF THE ARMY

HEADQUARTERS OF THE ARMY,
Washington, November 1, 1887.

SIR : I submit herewith the annual reports of the three major-generals commanding the three military divisions into which the territory of the United States is divided for purposes of military administration, accompanied by the reports of the eight department commanders and the commanding officer District of New Mexico; also, the reports of the Adjutant-General, the Inspector-General, the Superintendent of the Military Academy, the commanding officer of the Artillery School at Fort Monroe, and the commanding officer of the United States Infantry and Cavalry School at Fort Leavenworth, Kansas.

From these reports it will be seen that at the date of the last consolidated returns the Army consisted of—

	Officers.	Men.
General	10	.....
General staff	576	1,300
Ten regiments of cavalry	439	6,000
Five regiments of artillery	286	2,000
Twenty-five regiments of infantry	889	10,000
Indian scouts .....	.....	200
Detachments—recruiting parties, etc. ....	.....	2,000
Total	2,200	24,500

These reports are all so complete that little is left for me to say.

DIVISION OF THE ATLANTIC.

The Twelfth Infantry having completed the usual tour of service in the East, they were, during the past summer, replaced by the Eleventh Infantry, a regiment that had been continually stationed in Montana and Dakota since 1876; and two troops of cavalry were brought from Arizona and Colorado to constitute the garrison of Fort Myer, Va. Beyond these exchanges the movements of troops have been limited to such as were necessitated by the lack of facilities at some posts for skirmish and long-range target firing, the practice marches of light batteries, and the participation of representatives of the Regular Army in the ceremonies attending the celebration of the Centennial of the Constitution of the United States at Philadelphia and the military encampment at Chicago

The reconstruction of the post of Fort Porter has progressed favorably, and most of the new buildings will be ready for occupancy this fall. The new post at Atlanta, Ga., has advanced but slowly, and it is not probable that any garrison can be established there before next summer. General Schofield desires to concentrate those light batteries serving in the Division of the Atlantic that are not ordered to Fort Riley, when that post is ready for their reception, at Fort Niagara where the facilities for instruction though much inferior to those available at Fort Riley, are yet superior to any that can be found at other posts in the West. This measure will require some enlargement of Fort Niagara, which I hope can be effected at an early day.

General Schofield again calls attention to our large extent of sea-coast and its present defenseless condition—a subject which has been so extensively discussed in the last few years that it is now almost impossible to add further arguments to the cogent reasons already advanced as to the pressing necessity for some remedy for the existing evils.

As mentioned in my last annual report some 450 Apache Indian prisoners were placed in confinement at Fort Marion, Fla., in September, 1886, where they remained until April of this year, when, it having been determined that for various reasons Fort Marion was not the best place for the purpose, the majority of the Indians were removed to Mount Vernon Barracks, Ala., the wives and younger children of Geronimo and the captives at Fort Pickens being sent to join them there, while the other children and more promising adults, after a careful selection by Captain Pratt, were taken to the Indian School at Carlisle, Pa. Mount Vernon Barracks, in its healthy climate and isolated location, possesses all the conditions requisite to render it an excellent place for the confinement of these Indians. They are now engaged in cutting logs and erecting huts for their shelter this winter, and will be able to make themselves thoroughly comfortable.

DIVISION OF THE MISSOURI.

Major-General Terry has remained in command of this division during the year. The only changes in department commanders have been those in the Department of the Missouri, occasioned by the retirement of Brig. Gen. J. H. Potter in October, 1886, the appointment of Brig. Gen. O. B. Willcox, and his subsequent retirement in April, 1887, and the assignment by the President of Brig. Gen. Wesley Merritt to the command of the Department, upon his relief from the superintendency of the Military Academy July 1, 1887.

While the division has been free from Indian hostilities of any magnitude, many operations of a minor nature have been rendered necessary. Troops have been continually occupied in patrolling the Oklahoma country, and have been successful in keeping intruders out of that region. The gradual spread of railroads throughout the Territory can, however, ultimately have but one effect, and I am now of the opinion that Congress may well consider the advisability of opening up portions at least of this country to settlement.

What at one time threatened to develop into a serious difficulty arose last August in Colorado, near the Uncompahgre Indian Reservation. A small band of Ute Indians, who were off their reservation, were charged by the local authorities with violation of the game laws, and several of their number with horse stealing. In the endeavor to serve warrants for their arrest, the sheriff's *posse*, apparently without necessity or provocation, fired upon the Indians, and some days afterward burned one of

their camps, then occupied only by women and children. The Indians then commenced to collect their herds of horses and sheep, of which they possessed a considerable number, and to withdraw to the reservation. The *posse*, reinforced by State militia, following in pursuit. Nearing the Indians, a conference was held with the son of Colorow, the head of their band, when it was agreed by the whites that matters should remain as they were for the present, the Indians by this understanding that they should be allowed to continue to their reservation unmolested. Acting on this belief, they moved their camp to a point which they thought was on the Uncompahgre Reservation; the militia followed and the next day attacked the Indians, completely surprising them. When the tidings of this affair reached the agency they occasioned great excitement among the large number of Indians there collected for the issue of their annuities, and a war party started to avenge what they considered a treacherous attack and to resist an armed invasion of their reservation. Lieutenant Burnett and a small detachment of the Ninth Cavalry, who had been ordered to the agency to witness the annuity issues, accompanied them at their solicitation, and the next day had an interview with the commander of the party of whites, and was most fortunately able to avert the threatened hostilities. Through his intercession the whites agreed to keep off the reservation and the Indians were induced to return to their agency. This practically terminated the difficulty. General Terry embodies in his annual report the special report of General Crook, who in person investigated this affair, and to that report attention is invited for the further details of what at one time threatened to lead to an Indian war.

Very recently some little trouble has occurred on the Crow Indian Reservation in Montana, the result of one of the annual horse-stealing raids of the Crows against their neighbors, the Piegiens. Having been somewhat successful in their enterprise, the Crows, upon their return to the agency, indulged in too much liquor, become very enthusiastic and excited, as Indians will under such circumstances, and in celebration of their prowess, among other acts, fired off their guns, some of the bullets unfortunately penetrating the roof of the agent's dwelling and of the sutler's store. The agent, from the best information that I have, while an honest, honorable, well-meaning man, is not very well calculated to deal with wild Indians, being somewhat arbitrary and domineering, and in his endeavor to establish discipline attempted to enforce his power at once without giving the Indians a chance to cool off after their indulgences. As might have been expected from people of their character, resistance was immediately threatened. Reports of the trouble having reached Washington, I, after consulting with the Secretary of the Interior, went to Saint Paul, intending if necessary to continue on to Fort Custer; but obtaining a full report of the circumstances from General Ruger, the department commander, I did not deem my personal intervention necessary, but instead, directed him to proceed to the scene of trouble and assemble there such a force that their numbers alone would overawe the malcontents and render resistance impossible. This has been done; and as those directly concerned in the trouble are only seventeen in number, I anticipate no difficulty in their subjugation. General Ruger will cause the Indians who have taken the principal part in this affair to be arrested; and to further quiet the restless young men among them, I authorized him to enlist about thirty of their number as scouts and take them to Fort Custer. The Crows have always been friendly and make it a boast that they have never killed a white man, and it would be a great pity if anything should now occur to disturb

the peaceful relations of so long a standing, and I am confident that General Ruger will be able to effect a permanent settlement that will be satisfactory to the Crows as well as to ourselves.

The extension of railroads throughout the division, which has steadily progressed during the year, will bring some posts that were formerly supplied with difficulty and expense within easy reach, and will also obviate the necessity for longer retaining some of the smaller garrisons. While the country was new and comparatively unsettled, and only traversed by trails or wagon roads, the small posts filled the role of the vidette to the advance guard of the approaching settlers, and were necessarily established within moderate distances, that the needed security might be afforded; but as the development progresses the land becomes better occupied and the railroads offer opportunities for rapidly placing troops at any point where their presence might be required, fewer and larger garrisons, where the soldier can be supplied more cheaply and a higher state of drill and discipline maintained, are more advantageous both for the country and the Army. In pursuance of this theory the policy of concentration into larger posts in the vicinity of railroad centers has for several years been advocated, and many minor positions, now retained only because they afford a shelter for the troops not as yet provided for elsewhere, will be abandoned as soon as accommodations can be obtained at the regimental posts now either building or contemplated in the near future. The work on the new post at Denver, where it is proposed to place ten companies, will shortly be commenced; that at San Antonio has been progressing favorably during the year; the ground for the new post near Chicago will pass into the possession of the Government at an early day; and at Fort Snelling both the reservation and other attendant conditions are favorable for the establishment of a large garrison, and only some additional buildings are required for their accommodation. The reconstruction of Fort Riley has been actively prosecuted during the year, but before it can be completed additional appropriations will be necessary. No other post in the country possesses such advantages for the location of a school of practice for light batteries and for cavalry exercises, and since its establishment for these purposes has been authorized by Congress it has been deemed but true economy to erect only buildings of a substantial and permanent nature, so that with the new equipment of breech-loading steel field-guns, metal carriages, and improved harness, now being manufactured by the Ordnance Department, the service will probably derive marked benefit from this station for a number of years. During the summer a portion of the Seventh Cavalry was brought to Fort Riley by marching from the Department of Dakota, where they had been serving for over fourteen years, and the post placed under the command of the colonel of that regiment, the Fifth Cavalry being concentrated within or just to the westward of the Indian Territory, and the garrison will be still further enlarged as the accommodations for them are increased.

The gradual cessation of Indian troubles in the division has permitted the prosecution, to a greater extent than formerly, of the practice marches and field camps which further to so great an extent the practical and thorough instruction of the soldier. With a more complete peace, the experience formerly gained by active field duties, necessitated by movements against a hostile foe, can no longer be obtained, and these peace manœuvres become all the more necessary. For their successful prosecution, and the education of officers and men in the modern systems of carrying on war, the participation of larger bodies of troops than can now be assembled at our smaller posts is desirable, and this fact alone

offers one of the strongest arguments for concentration into large posts that can be advanced. Fewer and larger garrisons also result in greater economy in their military administration, and I hope that the subject from both of these points of view may be favorably considered by Congress.

DIVISION OF THE PACIFIC.

No change has been made among the department commanders since my last report, and General Howard still remains in command of the division.

No Indian hostilities have occurred in the Departments of the Columbia or California, and in the slight difficulties that in several instances have required the intervention of a military force the Army has only been employed in preserving to the Indians their rights, which were encroached upon by trespassers, or by the effect of their presence alone in quieting disturbances among them.

Upon the request of the Secretary of the Interior a cavalry force was for some time located at Amargo, New Mexico, in the Department of Arizona, for the purpose of keeping intruders off the reservation to which it was proposed to return the Jicarilla Indians, and a similar duty has also been performed at the Osage Indian Agency. At the Navajo Reservation the prompt action of the troops and the hearty co-operation of the Interior Department have fortunately disposed of threatened troubles, and in several other cases the display of a military force has been successfully employed to prevent action which might otherwise have resulted in serious complications.

With the removal last fall of the Chiricahua and Warm Springs Apaches to Florida, as described in detail in my last annual report, the Indian hostilities, which had required the concentration in Arizona of additional troops, practically came to an end, and the Eighth Infantry was, in consequence, transferred from that department to the Department of the Platte. Subsequently some slight troubles have occurred, but by the prompt action of the military authorities they were quickly quelled, and the Territory of Arizona has enjoyed during the year a condition of general tranquillity.

I do not look favorably upon the proposition of General Miles to separate the Indians now at San Carlos into several camps about 100 or 200 miles apart, deeming it for the best interests of the Territory of Arizona and of the Indians themselves that they should be kept in one body and the duties necessary for their control concentrated at a single point. Divided into different bands, each location might become the center of disturbances, and the difficulties of their supervision would be greatly increased.

Practice marches and the establishment of field camps have formed an important feature of the military instruction imparted during the year in this division, and in one case the intercourse between National Guard troops and those of the Army, consequent upon the adjacent location of their camps, proved to be of benefit to both, and afforded the State troops an opportunity to become more thoroughly conversant with Army methods.

Both General Howard and General Miles call attention to the inferior condition of the buildings at many of the posts in the Department of Arizona. Constructed at a time when the railroads were not available for the transportation of material, they could not, with the limited appropriations available, be made commodious, or, as the lapse of time has proved, particularly durable. As the territory becomes more closely

settled and the Indian troubles gradually cease, some of the smaller posts can, as in other divisions, be profitably abandoned and replaced by new or enlarged garrisons arranged, as upon our northern borders, with greater regard to the position of the boundary line between Mexico and the United States.

THE ADJUTANT-GENERAL'S REPORT

shows the distribution of troops, statement of casualties, enlistments, and re-enlistments during the year; the number of men drawing increased pay under the act of August 5, 1854, and the number of men who will become entitled to increased pay under the act of May 15, 1872.

The very rapid decrease in the number of desertions from the Army during the previous two years has not, I regret to say, been continued; the increase is, however, very slight, being only about one-half of 1 per cent. more than last year. The desertions, as a general rule, are mostly confined to soldiers in the earlier years of their first enlistment, and to men who enlist only for a temporary occupation, for transportation to a different section of the country, or for apparently the mere pleasure of deserting. These latter form no inconsiderable part of the whole number, and as it is not possible to recognize them unless they happen to be personally known to the recruiting officer, it is probable that they will continue annually to swell the number of deserters.

During the last few months the system of monthly payments has been inaugurated at some of the posts in the Army, and although so recently established that its effect can not yet be determined, it is hoped that by placing smaller amounts more frequently in the soldier's hands the temptation to periodical dissipation may be lessened, discipline thereby furthered, and the number of desertions diminished.

The recruiting service has been properly conducted during the year, and an increased number of men of good standard have been obtained. At two of the general depots the system of messing the recruits and permanent parties as a single command, instead of by companies, has proved successful, and may now be considered as firmly established. With the suggestion of the Adjutant-General that the plan be extended throughout the Army I am, however, unable to coincide. Between a permanent recruiting party and a company, or the entire garrison of a military post, no direct comparison can be instituted, as the conditions and requirements of the service are radically different. While the company remains the unit for military administration, its commander should continue in charge of the messing of his men as well as responsible for their drill and discipline. The ability to care for their own subsistence is as necessary a feature of a company's preparation for an active campaign as are the drills and target practice by which it is endeavored to fit the soldier for war. Make the company while in garrison dependent upon a general mess and the officers and men will soon lose a great portion of this knowledge that they now possess, and if suddenly placed in the field the officer will be found ignorant of the needs of his men and the soldiers themselves unable to properly prepare their rations. The garrison mess may perhaps be a slight economy, and possibly the living would be improved thereby, but as long as soldiers are maintained in peace mainly to fit them for the emergency of war, to inaugurate a measure which might, and probably would, impair their future efficiency would be to pay a heavy price for what could be at best but a slight increase in present comfort.

THE INSPECTOR-GENERAL'S REPORT

again indicates, as it did last year, that the Army is in a very healthy and gratifying condition, and while there have been, as must necessarily be the case, some infractions of regulations, the general discipline is good and that almost all officers and soldiers are animated with the spirit of obedience to law and a desire to improve so far as their opportunities will permit.

The Inspector-General makes many pertinent recommendations, especially those relating to the expenditure of the entire value of the soldier's ration in articles of food instead of compelling it to maintain the various funds for which it is now taxed, and to the provision for a more just allowance to officers traveling under orders.

During the year his department has for the first time undertaken, by direction of the Secretary of War, inspections of the work of the officers detailed as military instructors at colleges and schools, and from the information gained thereby now submits recommendations which are worthy of careful consideration.

MILITARY ACADEMY—ARTILLERY AND INFANTRY AND CAVALRY SCHOOLS.

General Wesley Merritt, who for the past five years had so ably conducted the administration of the Military Academy, having been appointed to the command of the Department of the Missouri, was, on the 1st of last July, relieved from duty as Superintendent, and in the following September replaced by Col. John G. Parke, Corps of Engineers.

The commandants of the other schools remain the same as for the previous year. The Artillery School has now been in existence for twenty years, and during that period has gradually developed and extended its course of instruction, until it now offers an exceedingly valuable post-graduate course for officers of the artillery arm of the service. The report of its commandant, with its history of the school and of the present system of imparting instruction, will prove of interest to all officers of the Army.

The Infantry and Cavalry School at Fort Leavenworth, only inaugurated as recently as the fall of 1881, was necessarily at first somewhat in the nature of an experiment, and my predecessor, General Sherman, in prescribing the original course of instruction, very wisely limited the number of subjects and the extent to which they were to be followed. The experience of the past few years has suggested modifications and elaborations, which have been ingrafted upon the course from time to time as far as seemed advisable, and it being considered that a still further development of the school might now be safely undertaken, a board was organized some months ago to revise the course of study and offer recommendations as to the theoretical and practical instruction to be imparted in the future. It is confidently expected that the labors of this board will result in placing the school upon a still firmer basis and greatly enhancing its value to the younger officers of our cavalry and infantry.

RIFLE PRACTICE.

Instruction in the employment of the rifle and carbine has been most energetically prosecuted throughout the year, and with very satisfactory results. The returns from the different departments, which embrace the

ing of all the Army, as well as the reports of the annual competitions selected shots, show an advance even over the preceding season, when the results were so good that further improvement could not be more than hoped for. This progress is especially noticeable in the skirmish firing—a class of practice only thoroughly introduced by my authority a few years ago, but which from its practical features I have always deemed of the greatest value. It is the object of the system of instruction now in force in the Army to so educate the enlisted men that their fire in battle can be delivered with the maximum effect rather than to center efforts upon the development of especial accuracy among particular individuals. The targets employed both for known distance and skirmish practice are well adapted for this purpose, and the periodical reports of progress, as expressed by the figure of merit of the various organizations, are efficient and necessary means to this desired end. These measures have proved entirely successful, and by far the greater portion of our soldiers are now good shots and would be found formidable adversaries in battle. Rifle practice being firmly established and thoroughly conducted throughout the Army, the season for range firing was this year reduced from four to three months. This step has in no way acted as a bar to further progress, while it has afforded greater time for the other important drills and exercises of the soldier.

GENERAL-SERVICE CLERKS AND MESSENGERS.

This force was authorized by Congress to be enlisted for clerical and messenger duty at the several military headquarters. While the system is generally satisfactory to all concerned and a good corps of efficient clerks has been obtained under it, their status under the law and the inadequacy of their pay in comparison with the civilian clerks of staff departments of the Army has attracted the attention of military commanders, who make various recommendations looking to their more equal remuneration. Attention is especially invited to the remarks of General Howard, in which I fully concur, and believe that the compensation of these clerks should be more nearly commensurate with the nature and responsibility of the duties they perform, and recommend that, while in active service, their pay be equal to that of civilian clerks in staff departments.

REVISION OF TACTICS, INCREASE OF ENLISTED STRENGTH, ETC.

The endeavor to conduct the evolutions of light artillery and cavalry according to a system of tactics assimilated to the tactics for infantry has now been in force over fourteen years, with results that can not be regarded as entirely satisfactory. Moreover, I do not consider such a measure at all necessary, but rather as tending to unduly limit the peculiar freedom of movement and especial individuality which each arm should retain if it is to be employed to the best advantage. The great advance in the material of war during this period has also occasioned vital changes in the manner of handling men in action, and our tactics are therefore no longer well adapted to the present conditions. For these reasons it is my intention to assemble at an early day a board of officers to consider this subject, and to prepare or recommend such revisions of the tactics as will place them more completely in harmony with the advanced methods of conducting war. The enlisted strength of our companies as at present allowed by law is so small that many of the advanced forms of military exercises or maneuvers so necessary for the complete

instruction of the soldiers and their officers can hardly be contemplated, and even the ordinary drills and duties incident to garrison life cannot be satisfactorily performed. When, also, any emergency demands the assembling of even a moderate force, the small size of the companies make such an undertaking not only difficult but decidedly expensive, and the desired military strength can only be obtained by ordering a great number of organizations to the scene. It then can hardly be questioned that both the drill and discipline of the men and the efficiency of the Army for service would be much enhanced by increasing by 5,000 men the present enlisted strength of the Army, and to still further perfect the organization of the infantry arm two majors and two companies should be added to each regiment—all measures that I recommended in my last three annual reports. But the measure which would most promote the efficiency of the service would be the passage of a law authorizing the immediate retirement of those officers, about eighty in number, in whose cases such action has already been recommended by military boards, or who have for some time been absent on account of sickness from their commands with but little prospect of ultimate recovery. Their enforced continuation on the active list, though doing no duty, has left companies without their proper complement of officers, and brought additional labor on other men while at the same time depriving them of merited promotion. These eighty officers owe their disability to causes incident to the service, in many cases to wounds received in battle, and have well earned the rest that an honorable retirement would afford. If this desired measure should receive the approval of Congress, the regular retired list would probably afford in the future sufficient provision for the retirement of such officers as might periodically become unfit for active duty.

The Springfield rifle still remains the weapon of our service, and it is undoubtedly a very good one. In my opinion, however, the magazine gun must be the arm of the future, and a glance at foreign armies shows that future to be very near at hand. Every leading country abroad has either adopted a magazine gun or been actively engaged in experiments looking to the development of an effective system. With us, progress in this direction appears to be very slow, and as far as I know no very decided steps have been taken during the year nor any definite conclusions yet reached. If it is not possible for us to devise at an early day a good magazine gun embodying the advanced ideas now accepted abroad, it would be better to adopt the best of their weapons rather than adhere longer to our present single loader, effective, even, as its fire can sometimes be made.

The condition of our sea-coast defenses has continued to deteriorate during the year, and the majority of them, both as regards the material of which they are built, their location and present armament, would prove of but little real service in time of foreign war. Strong fortifications and heavy guns require several years and a large expenditure of money for their construction, and while undoubtedly necessary for a thorough defense, any measures are worthy of careful consideration that promise to secure quickly and at a moderate cost, weapons always valuable as auxiliary means of defense, but which, in the absence of a more complete system, might yet be utilized with good effect. Pneumatic guns throwing large charges of high explosives are comparatively inexpensive to construct and operate, and moreover appear, from recent experiments, to produce within the limit of their range very conclusive results. I believe the efforts of Lieutenant Zalinski in this direction should be encouraged; it is not possible to predict what their final issue

may be, but that a still further advance can be made seems very probable, and an increased range and greater explosive effect can fairly be anticipated.

I am strongly in favor of the General Government extending all possible aid to the National Guard of the different States, as they constitute a body of troops that in any great emergency would form an important part of our military force. They should be armed with the best weapons, amply provided with complete camp and garrison equipage, and instructed in the various drills and exercises according to the tactics and systems followed in the Regular Army. According to my observation and experience most of the State troops now march well and handle the arms well, but they are deficient in discipline and in all the duties that teach a soldier to take care of himself while in camp or upon a march. This defect can best be overcome by establishing some system of encampment under the control and direction and at the entire expense of the General Government. In the development of such a measure the entire Army, as well as myself personally, will be glad to render such assistance as lies in our power, and I recommend that the favorable consideration of the subject may be commended to Congress.

The reports of the different department commanders recite in detail the various transactions of the year relating to Indian matters. I have no recommendations to make in this connection, except to invite attention to so much of my report for last year as suggests an assignment of lands in severalty to these people.

For the construction of new and enlargement of old military posts Congress has been very liberal, and I hope the same policy may be continued for the coming year.

Very respectfully, your obedient servant,

P. H. SHERIDAN,
Lieutenant General Commanding.

Hon. WM. C. ENDICOTT,
Secretary of War.

REPORT OF THE ADJUTANT-GENERAL.

HEADQUARTERS OF THE ARMY,
ADJUTANT-GENERAL'S OFFICE,
Washington, October 8, 1887.

Lieutenant-General PHILIP H. SHERIDAN,
U. S. Army:

GENERAL: Pursuant to your instructions, I have the honor to submit the annual returns of the Army:

- A.—Organization of the Regular Army.
- B.—Return showing actual strength of the Regular Army.
- C.—Distribution of troops in the Division of the Atlantic.
- D.—Distribution of troops in the Departments of the Missouri, Texas, the Platte, and Dakota—Division of the Missouri.
- E.—Distribution of troops in the Departments of California, the Columbia, and Arizona—Division of the Pacific.
- F.—Geographical divisions, departments, and posts, with post-offices, telegraph stations, and nearest railroad stations or boat landings.
- G.—Statement of casualties during the fiscal year ending June 30, 1887.

H.—Statement of enlistments and re-enlistments in the Army and number of men gained from desertion during the fiscal year ending June 30, 1887.

The number of enlisted men now in the service who are drawing increased pay under the act of Congress of August 4, 1854, is as follows:

Five years' continuous service	3,000
Ten years' continuous service	1,000
Fifteen years' continuous service	1,000
Twenty years' continuous service	1,000
Twenty-five years' continuous service	1,000
Thirty years' continuous service	1,000
Thirty-five years' continuous service	1,000

Total..... 6,000

The number of those who will become entitled to increased pay under the act of Congress of May 15, 1872, during the fiscal year ending June 30, 1889, is—

Re-enlisted pay	1,000
One dollar per month for third year of service	3,000
Two dollars per month for fourth year of service	3,000
Three dollars per month for fifth year of service	2,000

Total..... 10,000

and the number of enlisted men in service whose terms will expire during the same period is 4,207.

The officers of the Adjutant-General's Department are properly assigned and in the discharge of their appropriate duties.

I regret having to report that the number of desertions during the past year exceeds by 150 the number reported for the preceding year. The percentage of desertions to the legal strength of the Army, which in 1886 was 8.36, has risen to 8.96, a slight but not less deplorable increase.

The figures submitted above show that out of a nominal strength of 25,000 men, 16,876 now in the ranks have a service ranging from three to thirty-five years, and it is evident that the larger proportion of deserters were men having less than three years' service.

Of the 2,240 desertions reported during the past year, 1,105 were of men assigned to regiments from the several depots of the recruiting service, while of the number of men enlisted at military posts, 627 deserted. It appears from these figures that 51 per cent. of men who enlisted at posts deserted, while the ratio of deserters to assigned recruits is only 22.5. These figures of course are not absolute, as they take no account of desertions by men who have served one or two years, but they support the statement made by General Merritt, commanding the Department of the Missouri, that (speaking of desertion in his department) "the probability of these departmental original enlistments deserting is a little more than double that of the others."

The system of monthly payments inaugurated recently at a few posts has not been in operation long enough to develop its anticipated benefit in checking desertions by giving the soldier more frequent opportunities of providing for his little necessities or luxuries by cash purchases instead of on credit at an increased ultimate cost, and also by lessening the temptation to dissipation. In the Department of the Missouri, 31 per cent. of the desertions during the year occurred shortly after one of the bimonthly payments.

I beg to renew the recommendation made in a previous report for the preparation and adoption of a well-considered code of punishments for

■ military offenses. A great source of dissatisfaction, discontent, and probable desertion results from the effect on the men of inequality of the punishment awarded offenses of a similar nature but committed at different times or at different posts.

ARMY COOKS.

The regulations of the Army require that the cooking of a company shall be done by privates of that company detailed in turn for that duty. That this rule, crude and traditional as it is, can not and should not be strictly enforced results necessarily from the fact that all men are not cooks—indeed, the great majority absolutely lack aptitude for this important work—and the exceptions not only prove the rule, but the accidental presence of a good cook in one company is productive of great discontent among the men of other companies at the same post, who contrast the physical comfort and well-being of the men in that company with the positive distress in their own, resulting from ill-prepared and ill-cooked food. I beg, therefore, to recommend that one good cook to each company be enlisted solely for that purpose and not required to perform any military duty. This exemption is an absolute necessity, for the entire time of the cook will be absorbed in the discharge of his special duties, and his sole endeavor should be to insure to the men of his company the full value, in a healthy and attractive form, of the abundant ration provided by Congress.

The system of messing by commands instead of by companies, which has been inaugurated at two of the three depots of the recruiting service, has passed beyond the experimental stage and is now an assured success. I beg to recommend that garrison messes be gradually made to supplant the present messing by companies, and that, on the establishment of new posts, measures be taken to provide messing accommodations on a scale commensurate to the proposed commands to garrison them. The adoption of garrison messes is not only in the direct line of economy, but will also insure the greater comfort and health of the troops. Should these views be acceptable to you, I beg to suggest that a board of officers, composed largely of company commanders, be convened to prepare regulations governing the new condition.

RECRUITING SERVICE.

Since October 1, 1886, the recruiting service has been conducted under one superintendent, with headquarters at New York City. The consolidation of the general and mounted services, which was effected one year ago, thus dispensing with one of the superintendents, has proved satisfactory in all respects.

The depots for the general service at David's Island, New York Harbor, and Columbus Barracks, Ohio, and that for the mounted service at Jefferson Barracks, Missouri, have been maintained as heretofore.

October 1, 1886, recruiting rendezvous were in operation at the following points: Four in New York City; two in each of the cities of Philadelphia, Baltimore, Chicago, Cincinnati, and Saint Louis; and one each at Boston, Albany, Buffalo, Harrisburg, Pittsburgh, Cleveland, Detroit, Nashville, Denver, and Washington. In November, 1886, the rendezvous at Nashville (established with the special view of securing recruits for the colored cavalry) was transferred to Lexington, Ky., from which point it was transferred, in May, 1887, to Atlanta, Ga. June 30, 1887, one of the rendezvous at Chicago and that at Harrisburg were

closed, being replaced by rendezvous at Milwaukee, Wis., and Portland Me. In October, 1886, rendezvous were opened at Camden and Jersey City, N. J., and one has recently been established at Richmond, Va. The discontinuance of the rendezvous at Jersey City has been ordered as it has not proved successful of late.

During the entire year the demands for recruits for the regiments of the various arms of the service (excepting only the colored infantry) has been greater than the recruiting service could supply. Especially has this been the case with the cavalry regiments, both white and colored. Recruiting officers have had instructions to make all proper efforts to secure the necessary number of men to fill the ranks of the Army, and, in cities where only one rendezvous has been in operation the officers in charge have made enlistments throughout the year in both the general and mounted services. Notwithstanding these efforts the Army is still 1,600 below its authorized strength, and, as the rate of enlistments for several months has not been commensurate with the losses, instructions have been given for the opening of several new rendezvous in localities where it is hoped a good class of recruits may be secured. Recruiting has been also carried on, as heretofore, without expense to the recruiting fund, at posts in the several departments and at the stations of companies of the Engineer Battalion.

The total number of enlistments and re-enlistments in the Army (exclusive of the Signal Corps) for the fiscal year ended June 30, 1887, was 7,807, classified as follows:

For the general and mounted services	4,926
For the departmental recruiting service	1,225
For the Engineer Battalion.....	1,656
	<hr/>
For special regiments, detachments, etc.....	1,639

Of the 6,168 accepted recruits, 3,788 were native born and 2,380 of foreign birth; 5,587 were white and 581 colored. Fifteen thousand five hundred and thirty-five applicants for enlistment (nearly 72 per cent. of the whole number) were rejected by the recruiting officers on account of physical or mental disqualifications, which shows that notwithstanding the pressing need for recruits the officers charged with this important duty exercise due care to prevent the entrance into the Army of men not fitted for the duties of soldiers.

The practice of retaining all newly-enlisted recruits of the general and mounted services at least three months at the general depots for instruction before assignment to regiments has been continued with good results.

Although the whole number of desertions from the Army during the fiscal year ended June 30, 1887, exceed the number for the preceding year by 150, the number of desertions of *recruits* of the general and mounted services before assignment to regiments was 20 less in the latter year than in the preceding one, and the improvement in this respect in the recruiting service is emphasized by the fact that the number of enlistments during the past fiscal year exceeded by 1,178 the number of recruits enlisted during the year ending June 30, 1886.

Respectfully submitted.

R. C. DRUM,
Adjutant-General.

REPORT OF THE INSPECTOR-GENERAL.

HEADQUARTERS OF THE ARMY,
INSPECTOR-GENERAL'S OFFICE,
Washington, D. C., November 7, 1887.

SIR: I have the honor to submit for the information of the honorable Secretary of War and the Lieutenant-General of the Army the following, my report as Inspector-General of the Army for the current year:

My last annual report was made October 6, 1886, and from that date until now the officers of the department have been employed as follows:

I have myself continued in charge of the Inspector-General's office in the War Department, and in addition to the performance of the regular duties pertaining thereto, I have been absent from January 12 to January 31, engaged in making an investigation of certain irregularities at Fort Du Chesne, a recently established post in Utah Territory, under special instructions of the Lieutenant-General commanding the Army.

On March 17, under special instructions, I accompanied the Lieutenant-General to Denver, Colo., in connection with the selection of the site for a new post near that city, and to Fort Riley, Kans., in connection with the establishment of a permanent school of instruction for drill and practice for the cavalry and light artillery service of the Army of the United States.

I was absent from July 27 to October 16, in compliance with Special Orders 146, Adjutant-General's Office, 1887, directing me to proceed to France, to witness the autumnal grand maneuvers of the ninth and a portion of the thirteenth corps of the French army, of which observations a separate report will be submitted.

Inspector-General Col. Roger Jones has continued on duty as inspector-general of the Division of the Atlantic and of the Department of the East.

Inspector-General Col. J. C. Breckinridge has continued on duty as inspector-general of the Division of the Missouri.

Inspector-General Lieut. Col. Robert P. Hughes has continued on duty as inspector-general of the Division of the Pacific and of the Department of California.

Inspector-General Lieut. Col. Edward M. Heyl has continued on duty as inspector-general of the Department of Texas.

Inspector-General Maj. George H. Burton has continued on duty as inspector-general of the Department of the Missouri.

Inspector-General Maj. Henry J. Farnsworth has continued on duty as my assistant in this office, and has been in charge during my absence. In addition to his regular duties he has made several investigations ordered by the Secretary of War.

Lieut. Col. Edwin C. Mason, Fourth Infantry, has continued on duty as acting inspector-general of the Department of Dakota.

Lieut. Col. William F. Drum, Twelfth Infantry, has continued on duty as acting inspector-general of the Department of Arizona.

Maj. Robert H. Hall, Twenty-Second Infantry, has continued on duty as acting inspector-general of the Department of the Platte.

Lieut. Col. Henry M. Lazelle, Twenty-third Infantry, continued on duty as acting inspector-general of the Department of the Columbia until May 31, 1887, when he was relieved to take charge of the publication of the "Official Records of the War of the Rebellion."

Maj. Samuel S. Sumner, Eighth Cavalry, was detailed as acting inspector-general of that department by Special Orders 139, A. G. O., 1887, and reported for duty July 23, 1887.

The amount of work required to be performed by the officers of this department has been constantly increasing year after year, in consequence of new matters being referred by the Secretary of War for investigation or supervision.

During the year now ending the inspection of forty officers detailed as military instructors at various colleges and schools has imposed a considerable amount of labor not previously demanded. Yet the required inspections of military posts and commands by officers of the department, as well as those by post commanders required in paragraph 1327 of the Army Regulations, have in no previous year been more completely and thoroughly made.

The money accounts of disbursing officers, amounting to many millions of dollars, have likewise been regularly verified.

The regular force of the department, supplemented by the detail of officers of the line as acting inspectors, which the Secretary of War is by law authorized to make, is inadequate for the complete performance of all the duty required as we would wish it to be done. For this reason I repeat my recommendation of last year, that the strength of the department may be increased, and I trust that the honorable Secretary of War will approve and assist in bringing this about. It is greatly to be desired that all the officers serving in the department should permanently belong to it, but if we can not attain this end, I will ask that the number of officers which the Secretary is permitted to detail may be increased.

Nearly all the officers serving in this department are married and are compelled to keep up, continuously, a home establishment, while during a large portion of the time they are themselves absent on duty. This imposes upon them a largely increased expenditure which few are able to bear, and the present illiberal laws regulating the compensation of officers traveling on duty do not adequately reimburse them. If Congress would give to each officer traveling on duty an allowance of 10 cents a mile for each mile actually traveled, which is just half of what has usually been paid to members of Congress for the journey from their homes to the seat of Government and on return, the compensation would be reasonable and satisfactory and not too great, as I know from experience, and the accounts could be easily kept and readily scrutinized.

The demand for a clear recognition by the law of the allowance of clerical assistance which an officer serving as an inspector-general may claim in the same way that it is fixed for other staff departments is one of urgent importance. It has been frequently referred to by my predecessors in office and its necessity was urged by me in my report one year ago. I hope very much that the honorable Secretary may think it proper for him to assist in procuring the legislation desired.

In my annual report of last year I remarked that the Army, as a whole, was in a very healthy and gratifying condition. I repeat this remark now for the reason that it elicited some criticism at that time. It is not intended now to assert that there are no breaches of discipline whatever in the Army. A guard-house is found necessary at every post, in every

every county, but the general spirit of obedience, so far as opportunities will permit, and our enlisted men are good.

It is impossible to attain great perfection in all of the drills with only skeleton commands, depleted by various details for labor, but our officers do the best they can, and the perfection which has been reached in the use of the rifle, since unusual attention has been given to target practice, proves that any desired degree of perfection in other military exercises could be attained by the same troops whenever demanded.

It is true that orders are in existence, unrepealed, but so long neglected that from disuse they are nearly forgotten. At the same time it is seldom the troops are to blame for this. It is generally the fault of the government of the Army and not of the soldiers. Too many orders are issued, not always emanating from the same source, and not always subjected to the close scrutiny of one person to ascertain that each new one does not in its requirements infringe on another already in existence which it was not designed should be repealed. A soldier can not be in two places at the same time, neither can he give all of his waking hours to one line of duties and have much time for another line of duties. When two demands upon a soldier conflict both can not be perfectly executed. In my judgment too much time is allotted to target practice to permit proper instruction in all other important matters. Almost all of the orders which have been brought to my notice as having fallen into seeming disuse are of a character in which the commanding officer is forced to elect which of two in conflict he had better neglect.

As I have here referred to target practice, I will repeat my recommendation of last year, that officers be prohibited from entering into competition with soldiers. It is unfair to the soldier and is destructive of discipline in breaking down the lines of separation between commissioned officers and enlisted men, which it is so important to preserve.

CLOTHING OF ENLISTED MEN.

I have nothing to add to what I said in my report of last year regarding the satisfactory and good quality of the soldier's clothing, but I repeat my recommendation that all articles of dress issued to a soldier should be fitted to his person without subjecting him to any charge therefor. I suggested a way of accomplishing this end—that of paying the company tailor an extra compensation of 50 cents a day out of the funds appropriated for the manufacture of the articles.

SUBSISTENCE.

There has been no falling off in the good quality of the ration or the general satisfaction it has given.

Objections to the salt pork ration continue, and I can think of no way of quieting them unless the Secretary of War would decree that henceforth salt pork should be excluded from the ration and should be issued only when called for in such amounts as might be required.

The demand for an issue of potatoes and onions as a part of the ration becomes more frequent. It is reported officially that the troops in the Department of Texas during the last fiscal year contributed out of their own pay \$12,275.22 to purchase these necessary articles of diet for their several messes. This is of course wrong, but I do not think the remedy proposed, of adding these perishable articles to the ration, the proper one, or that it is practicable or consistent with our theory of having a ration from which savings may be made and sold in order to purchase the things not furnished.

My views on this subject were indorsed upon an application of the character coming from the Department of Texas, made June last. They were in the following words, and I have nothing to add to them:

The soldier's ration, both as regards the variety of articles of which it shall be composed and the amount of each article, is prescribed by the Secretary of War, and at present fixed it is believed to be, if properly managed, amply sufficient. It is a rule limited to articles not very perishable and which will bear transportation; recognizing the importance for sanitary and other reasons of sometimes and at places varying the soldier's food to suit climate and locality, by giving him some perishable articles not included in the ration, the amount of the more solid articles has been made larger than that which a man can readily consume, so that by selling the surplus, in the way permitted, enough money can be obtained to purchase on spot the variety needed. I believe that this is the very best way in which the desired can be accomplished, leaving the management of the soldier's food to his company officers.

It would be unreasonable to expect the Subsistence Department to keep constant on hand at all places where soldiers might be stationed a supply of perishable food articles which might never be asked for or which might be taken only with reluctance.

If the entire value of all that part of the ration, including the ration of flour, which is not consumed, was expended in articles of food exclusively, and the various funds now created out of this surplus provided for by direct appropriation, I think there would be no complaint as to the sufficiency or the quality of the soldier's food and allowance.

In this connection I invite attention to a recommendation made by Lieut. Col. W. F. Drum, acting inspector-general for the Department of Arizona, to the effect that the baking of bread and messing of troops be turned over entirely to the Subsistence Department, and that all savings on the ration revert to that department. I think this suggestion merits thoughtful consideration. Of course the various funds, the regimental fund, the company fund, the band fund, and the post fund, which are largely made up from the savings on the ration, would have to be otherwise provided for, but there can be no doubt that Congress would as readily appropriate an adequate sum directly for the purposes which these funds accomplish as to appropriate it indirectly in the shape of surplus food. The Subsistence Department has its agent with every detachment of troops, and to permit such agent to employ cooks and equip messes and to direct the feeding of the men, under the supervision and control of that department, would, I think, be both economical and highly satisfactory.

DESERTION.

The matter of desertions from the Army has caused less remark during the past year than in some preceding it. In some departments the percentage of deserters to those enlisted is reported as having decreased; in others it has not decreased. The cause of and inducements to desertion will always exist. To regard this crime leniently is to encourage it, and I am still strong in the belief that confinement in the Military Prison at Leavenworth is not a punishment adequate to the offense, nor calculated to discourage it.

SCHOOLS.

The reports regarding post schools indicate, as those of previous years have done, that they are of but little benefit to the enlisted men, because very few are willing to attend them. This unwillingness of enlisted men to avail themselves of the advantages of education offered has led several officers to recommend that illiterate soldiers be compelled to undergo a course of schooling. To this I am absolutely opposed, be-

case, however desirable learning may be from a humanitarian point of view, I think it would violate the fundamental laws of our Government to compel any citizen to go to school against his will or his conscientious scruples, and if the right exists to compel enlisted men to do so, by the same right captains and lieutenants might likewise be required to attend.

By the term illiterate soldiers I suppose is meant those who can read and write only indifferently, or perhaps read but not write, or neither read or write. Now, the best that could be hoped for from the attendance at school of such persons during a term of enlistment, while performing the duties for which they are employed and paid, would be that they might read and write a little better, and it seems to me that a much simpler way of reaching this end would be to require that amount of education in every man when enlisted.

TACTICS AND ARMY REGULATIONS.

A revision of the tactics of each arm of the service, which it is known the Lieutenant-General has in contemplation, is anxiously awaited. The same anxiety exists regarding the new revision of the Army Regulations, upon which a board of officers was employed during several months of the past year. Every day at remote stations of troops questions of doubt arise which it is hoped that new editions of the tactics and of the regulations will settle.

TRANSPORTATION OF OFFICERS' BAGGAGE.

Early in this year I forwarded an application coming from the Department of the Platte asking for an increase in the number of pounds of baggage allowed to officers on changing station under orders. This was favorably regarded by the Lieutenant-General, who proposed a new scale of allowance on a liberal basis. His views were fully concurred in by the honorable Secretary of War, but in consequence of a report from the Quartermaster-General that the present appropriation for transportation of the Army did not justify any increase, further consideration of the matter was postponed until the time for asking for new appropriation, at which time the Secretary remarked that he would be glad to recommend the increased allowance. I mention this now that it may not be overlooked in preparing new estimates.

OFFICERS DETAILED AT COLLEGES AND SCHOOLS.

During the year now ending, for the first time, an inspection of the work of the officers detailed as military instructors at colleges and schools has, by direction of the Secretary of War, been made and reported upon. Nearly all of them had been inspected when exhaustion of the mileage fund for the payment of traveling expenses arrested further work.

The reports of inspections made suggest the necessity of a code of regulations the same for all institutions, defining in the interests of the United States the duties of the officers detailed, and informing the authorities of the different institutions what is to be expected of them in return for the gratuitous loan of a military expert as instructor, accompanied by the further loan of Government arms and equipments.

It has been recommended that the detail for the service should be for a fixed period, say of four years, and that such students as show unusual

aptitude in military studies and pursuits should be given a diploma, signed by the president of the college and the military instructor, to signify to the governor of the State in which they reside their fitness for military employment should State troops be called for.

That the detail of officers of the Army as instructors in civil institutions might, under proper rules, be made the vehicle of disseminating valuable knowledge in the community can not be doubted, but at the same time it must be remembered that every officer so detailed has been commissioned to fill an office supposed to be necessary in the regular military establishment, and his prolonged absence indicates that the office is not a necessary one. A colonel long absent from his regiment proves that a regiment can exist very well without a colonel, and one lieutenant only with a company during a long time proves that a company needs only one. The fact is, every officer should be in the place to which his commission assigns him, and when it becomes distasteful to him he ought to retire.

The reports of the inspectors-general at the division and department headquarters are unusually full of useful suggestions too lengthy to be included in this report, but all matters of interest will be brought separately to the notice of the Lieutenant-General.

I submit herewith all the reports of the inspections made of the money accounts of disbursing officers for transmittal to Congress, as required by act approved April 20, 1874.

Respectfully submitted.

A. BAIRD,
Brigadier and Inspector General,
Brevet Major-General, U. S. A.

The ADJUTANT-GENERAL, U. S. ARMY.

REPORT OF MAJOR-GENERAL SCHOFIELD.

HEADQUARTERS DIVISION OF THE ATLANTIC.

Governor's Island, New York Harbor, September 20, 1887.

SIR: I have the honor to submit, for the information of the Lieutenant-General commanding the Army, my annual report and such recommendations as I have to make respecting the needs of the military service in this division.

The Division of the Atlantic embraces the New England and Middle States, the Northern and Southern States east of the Mississippi River, ^{apt} Illinois, and the States of Arkansas and Louisiana, with a total of 899,180 square miles, and a total population of 37,282,000.

The sea-coast line is 2,870 miles in extent, and the northern frontier is; total, 5,400 miles. The division contains 66 military posts, ^{them} partially fortified; 27 of these posts are partially garrisoned; 39 are without any garrison whatever except an ordnance ^{are} of the property.

In the division are the Second, Third, Fourth, and Eleventh Artillery (except 4 light batteries), 1 battery of the Eleventh and Twenty-third Regiments of Infantry, and the Fourth and Sixth Regiments of Cavalry. The total is 2,683, an average of 99 to each of the occupied posts of all the posts which would be occupied if the ^{is} sufficient.

The accompanying report of the Assistant Adjutant-General gives the stations of the troops in detail, and the changes which have occurred in the past year.

The troops have been actively employed in the duties of garrison, marches, and encampments for instruction and the prescribed target practice. The details of this service are given in the accompanying reports of staff officers.

ARTILLERY INSTRUCTION.

Increased efforts have been made to improve, as far as possible, the practical instruction of the small artillery garrisons along the sea-coast, by the use of such material as is found available (see Circular of March 23, General Orders No. 11, of August 27, and General Orders No. 12, of September 10, 1887, from these headquarters). But in all cases the material is greatly defective, both in kind and in condition, and in some cases is entirely wanting. Many platforms and carriages have become unserviceable or have never yet been provided for the more modern guns, and suitable and sufficient ammunition is lacking. In this connection I desire to recommend that the amount of ammunition prescribed in paragraph 469, Army Regulations, be increased so that each battery of artillery may be able to fire 50 rounds, annually, in heavy-gun practice, 30 of which shall be of caliber below 10-inch.

The present small number of artillery troops can not even be provided with the means necessary for their practical instruction. For example, no facilities for heavy-gun instruction exists at the following posts: Jackson Barracks, Mount Vernon Barracks, harbor of Pensacola, harbor of Saint Augustine, Little Rock Barracks, Newport Barracks, Washington Barracks.

Of the 62 posts in this division which may be properly termed artillery stations, 8 are garrisoned by infantry, and 39 have no garrisons at all.

In the 5 fortifications guarding the entrance to the Mississippi and the city of New Orleans there are mounted but 4 rifled guns, which are of obsolete type; in the harbor of Mobile but 26 are mounted, which are also obsolete; at Key West there are 17 obsolete rifled guns; at Pensacola there are none whatever; in the harbor of Saint Augustine none; Cumberland Sound none; in the defenses of Savannah 2, obsolete; in Charleston Harbor 2, obsolete; in Wilmington none; New Berne 2, obsolete; Hampton Roads, including Norfolk and Richmond, has but 12 rifled guns, of which 7 are obsolete; in the defenses of Washington no rifled guns are mounted; Baltimore has none; Philadelphia none; of the 9 lake ports, 8 are without sea-coast guns of any description whatever, and none of them have rifled guns; in all the defenses of New York Harbor there are mounted but 57 muzzle-loading rifled guns, of which 44 are of obsolete pattern; the harbor of New London has none; Newport has 4, obsolete; Clark's Point 4; Boston Harbor has 6 rifled guns mounted, of which 2 are obsolete; Portland only 6, of which 2 are obsolete; and the defenses of the Kennebec and Penobscot Rivers none.

Thus on the entire Atlantic and Gulf coast and Northern frontier there are mounted but 142 rifled guns, of which 116 are obsolete and of very low power. Even the few serviceable rifled guns that are mounted are of but little value; some of them are mounted on old carriages, and all are without adequate protection.

Yet it is intended to pursue without remission every possible effort to improve the artillery instruction.

To this end it is respectfully recommended that each artillery piece be furnished with at least 1 8-inch muzzle-loading rifled gun, with other appliances as may be needed for artillery target practice, other technical instruction, and with one or more of the new breech-loading guns and mortars as soon as they become available.

The light batteries have been maintained in a comparatively good condition for practical instruction. To perfect this condition, in pursuance of the suggestion made in my last annual report, measures now in progress to concentrate the light batteries of this division post which will afford all the necessary facilities for the varied instruction of field artillery. It is hoped that the batteries may soon be furnished with the breech-loading field guns now on hand, and with other new equipment as may have been adopted.

MUSKETRY TARGET PRACTICE.

The reports of target practice show a highly satisfactory degree of efficiency in the use of the musket, as well by the artillery troops as the infantry. Experience has led to a considerable reduction of the formerly required to qualify the men as marksmen, so that the musket practice will not occupy time which the artillery should devote to its special arm.

INDIAN PRISONERS.

The Apache Indian prisoners sent from Arizona to Forts Pickens and Marion, the latter transferred to Mount Vernon Barracks, have been carefully guarded and yet treated with humanity and kindness, in view to their civilization. The children of suitable age have been placed under orders from higher authority, to the school at Carlisle Barracks. The adults have been provided with appropriate labor, which they have performed with the greatest alacrity. Their conduct has been in every respect entirely satisfactory. Even in the Apache there is a good element of character which is susceptible of development.

NEEDS OF THE MILITARY SERVICE, ESPECIALLY IN THIS DIVISION.

DEFENSIVE STRENGTH.

Twenty-six years ago the fortifications and armament of the coast of the United States were among the best in the world. Our navies possessed comparatively small aggressive power, and the means of ocean transportation were slow and limited. Hence, although our Regular Army of the United States was small, and the organized military force of the States not much larger, the country was in condition to meet a vigorous defense against any probable foreign attack. In four years more the United States had become, through the necessities of civil war and at enormous cost, the most formidable, in every respect, of the nations of the world. Twenty-two years have sufficed to completely reverse this condition.

Although the country has increased very greatly in population and immensely in wealth, it has become by far the feeblest in a military sense of all the nations called great. Population and wealth do not constitute military strength. They are only the elements from which military strength may be developed in due time and by appropriate means. They are like the fat of the over-fed giant, which may be converted into muscle in due time by appropriate training. But it is

late for the giant to commence training after he has met his well-trained antagonist.

While other nations have increased their military and naval strength many fold, this country has made but little advance, and has even left its old defenses to fall into decay. It is a mistake, however, to suppose that the old forts and guns have become entirely obsolete. They would be not only useful but essential as auxiliary to more powerful defenses. They only need to be supplemented by the more formidable weapons of modern construction suitably emplaced. But without such supplement, the old defenses are worthless.

It is assumed as self-evident that imperfect and wholly inadequate preparation for war, leading to inevitable defeat, is no better, if not absolutely worse, than no preparation. In this sense, it may be said, without exaggeration, that the United States have no fortifications, no armament, no army, no militia, no arms, and no preparation whatever to resist successfully an attack from any first-class military and naval power.

PREPARATION FOR WAR WISE ECONOMY.

In a country so prosperous as the United States, reasonable annual expenditures in preparation for the nation's defense would actually cost the country little or nothing, since much of the money and labor thus employed would otherwise remain idle. It may be said without hesitation that the productive capacity of this country is so great as compared with all possible markets that the necessary expenditures for military purposes in time of peace would not diminish by a single dollar the annual increase of the nation's wealth. On the other hand the loss of the country in a war for which it was unprepared would amount to thousands of millions of dollars, besides the great loss of life and other evils which can not be estimated.

MILITARY ADMINISTRATION.

This country appears to have inherited from Great Britain the notoriously bad system of military administration peculiar to that country, characterized by excessive centralization. In defiance of the fundamental principle upon which the Government of the United States was founded, and in spite of the manifold evils which resulted from it, that system was adhered to, with some slight modifications, until the year 1864, when it was wholly set aside at the earnest demand of General Grant. After the end of the civil war the discarded system was gradually restored, step by step, until it has at length been re-established in its extremest form. It is, I believe, agreed among all military men that this system of administration is wholly inapplicable to a state of war, and that it is impracticable to set aside an old system and make another immediately effective when war begins. And this is true, as experience has shown in this country, in spite of the fact that our staff organization, though perhaps not perfect, is very good and not surpassed, if equaled, by any other in the character and ability of its personnel.

Under this system, the Commander-in-Chief of the Army, provided by the Constitution, and the subordinate commanders assigned by him to command the Army and the several geographical divisions and departments, are practically superseded by the chiefs of Bureaus of the War Department.

A decision of the Supreme Court (13 Peters' Reports) defining the *administrative* authority of the Secretary of War, having been heretofore so construed as to also sanction the exercise by the Secretary of the *military* and, in some cases it seems, even the *judicial* functions of the President as Commander-in-Chief of the Army, the principle enunciated in that decision has, at length, been applied to the relations sustained by the chiefs of the several Bureaus of the War Department to the Secretary of War, and through him to the President. Thus the chiefs of the several staff departments have become the representatives of the Commander-in-Chief of the Army, clothed with all his authority in respect to the affairs of their respective departments. Their orders must be respected and obeyed as the orders of the Commander-in-Chief. Supplies or means of transportation which, in the opinion of the commanding general and his subordinate officers, are unfit for the military service may be forced upon the troops in spite of their protest, at the dictation of a staff officer in Washington, or those provided for special service may be diverted to other uses without the consent or knowledge of the commanding general, or that of any superior military authority.

Such orders may be sent directly to the officers of the several staff departments serving in a geographical division or department or with an army in the field, and without the knowledge of the General-in-Chief in Washington or that of the general in immediate command of the troops. Thus the orders of the general commanding an army, involving the most important military operations, may be practically annulled at any moment by orders to his staff officers respecting the transportation or supplies, or even the personnel of his command, coming to them from their staff superiors in Washington, and without the knowledge of any military commander.

This theory of military administration, of which the extreme is the multiple representation of the Commander-in-Chief in the persons of the several chiefs of Bureaus of the War Department, has been steadily opposed by all the eminent generals who have commanded armies in this country; and it is, I respectfully submit, self evident that military operations cannot possibly be conducted with success under such a system of administration. Yet this theory seems now to have become established as the military law of this country. The uniform answer to all protests against the perpetuation and re-adoption of this system, in the various stages of its development during the last twenty years, has been, that it is the law of the United States. Hence it seems that Congress alone has the power to remedy an evil which all military men in this country have uniformly regarded as very serious.

It has been found in all countries indispensable to the efficiency of an army that governmental control over the military administration be exercised *through the commanding officers*, and not independently of them, and that the administrative affairs of each military organization be intrusted as far as possible to its own officers, subject, of course, to inspection and correction by the central authority. By this means the officers of every organization are made familiar with the machinery by which it must live and act in time of war. The increasing tendency of late years in this country has been to centralize all this administrative business, even to the minutest details, in the Bureaus of the War Department. The inevitable result of such centralization, in military no less than in civil administration, is stagnation and paralysis of the members, overwork and consequent disease of the central organ of the system, culminating in complete failure when subjected to the strain of war.

DELEGATION OF MILITARY AUTHORITY.

The theory that military as well as administrative authority may be delegated to the staff has always found its advocates in the Army, and has sometimes been put in practice. By it the responsibilities of battle have sometimes been thrown upon a staff officer instead of the corps commander, where they properly belonged. No practice could be more pernicious, and I recommend that it be prohibited by law. Military authority ought not to be delegated to anybody, any more than judicial authority. Where the Commander-in-Chief ceases to exercise his authority as such, there the authority of the next in military command begins, and so on to the lowest in grade of command. It has been justly said that the staff should "be the eyes and ears of the commander," to give him information. But they should not be permitted to usurp the functions of judgment in respect to military operations any more than in respect to the administration of justice.

There may be no need of a better system, nor of any other preparation for war, during the few remaining years of service of any of those officers of the United States who have had experience in war. But, in the order of nature, wars must be the lot of future generations, and the few veteran soldiers who yet remain might well be employed during the short remnant of their service in preparing the means without which their successors cannot hope for victory. At all events professional honor and loyalty demand of them a candid and unreserved statement of the military condition and wants of the country, for the consideration of those who are, for the time being, charged with the responsibilities of government.

DEFENSIVE WORKS.

It must be admitted that there are in the Army many officers publicly well known who, by early scientific education and life-long study and experience, have become thoroughly qualified to determine what military structures are needed for the national defense, and to direct the construction of such means of defense. Hence there need be no hesitation on that ground. All that is requisite in that regard is the necessary appropriation, coupled with a reasonable condition that it be expended under the direction of a board of those officers whom the Government has educated for such service, and whose ability and fidelity have been tested in the expenditure of many hundreds of millions of money heretofore appropriated for the public service. Therefore I venture the simple suggestion that it only remains for the Government of the United States to decide whether the national defense shall be assured, or whether all shall be left to chance. It is highly probable, notwithstanding the great advances made in the last twenty years, that the means of attack and defense have not yet reached perfection. It is, indeed, probable that perfection will never be reached. The same may be said in respect to the means of extinguishing fires in great cities, and of protecting life and property in general. But any probable imperfection in the present steam fire-engines would hardly be urged as a reason for adhering to the old hand-machines of thirty years ago. Yet it has been gravely proposed that this country rest content with its obsolete system of defense until the new system is perfected.

There may be apparent economy in the policy of leaving entirely to other nations the expense attending the experimental development of improved means of attack and defense, in the hope of finally profiting

by the knowledge which others have gained. But, in the mean time we will have lost by disuse the mechanical skill necessary to make available the scientific knowledge thus appropriated, and will be entirely without the plant which is indispensable to the commencement of such work. Many years must then be required to establish the necessary plant and to regain the lost practical skill. Thus our apparent economy may prove to be enormously expensive.

American genius has originated a large proportion of the modern improvements in the materials of war, while American policy has driven the products of that genius from their native country, and placed them in the hands of other nations who may at any time become her enemies.

I beg leave to suggest that self-interest and self-respect alike dictate that the United States develop their own system of defense, instead of waiting to follow in the footsteps of other nations.

The intelligent capitalists of the country, whose greatest desire is to preserve the wealth they have gained, and to continue without danger of interruption their profitable business, would gladly pay the cost of assurance. The only possible source of such assurance is in the great mass of laboring men, of all grades, who alone can construct and man the necessary defenses, and who also constitute the Government of the country. It would seem wise in this great mass of laborers to accept the compensation tendered and perform the desired service, the more especially since they must share equally in the ultimate benefits of such a policy, besides receiving all of the present compensation for the work.

NECESSARY GARRISONS FOR SEA-COAST DEFENSES.

Assuming that adequate provision will soon be made for fortification and armament, it becomes necessary to consider what measures will be necessary for efficiently manning the proposed fortifications, or the present needs of the artillery arm of the service.

During the past twenty-two years almost the entire infantry and cavalry of the Army, and a portion of the artillery, have been employed in active service in connection with the development of the vast Territories of the West, and in controlling the Indian tribes. The paramount necessities of this active service have caused the artillery, stationed mainly along the sea-board, to be comparatively neglected. The activity of the frontier service (although of continued intensity in a comparatively limited territory, and perhaps liable for some time to come to break out afresh in other portions) is gradually diminishing in its extent, and there is good reason to hope that the time is not distant when Indian wars will cease. Hence the defense of the frontier against possible foreign aggression must, in all probability, be the most important future service of the Army, and in such service the artillery must, of necessity, act the most important part. Therefore a due consideration of the needs of this arm of the service now seems opportune.

A careful estimate shows that the war garrisons of the present and projected fortifications would consist of 85,000 artillery troops, needed exclusively for the service of the permanent fortifications, besides the armies in the field, composed of troops of all arms, which may be required. Even though the main bodies of those armies in the field, and also of the war garrisons of fortifications, may be composed of militia or volunteers, it is a vital necessity that a sufficient proportion of the troops be thoroughly instructed in advance.

Artillery experts estimate one-fifth of the war garrison as the least number of thoroughly instructed artillerists which would be able to di-

at the service of the guns, and this estimate seems very moderate. In accepting one-half that ratio, the permanent artillery establishment of the United States should be not less than 8,500 men, with proportionate officers, equal, under the present organization, to more than 18 regiments. The present regular artillery is only 5 regiments, aggregating 2,600 men, or little more than one-third of the minimum force which is considered necessary as a leaven to the mass of volunteer artillery troops which must be instantly called into service in the event of a war with any foreign power. Making the present very moderate allowance for field artillery, two batteries to each regiment, the requisite force is 17 regiments, with 680 enlisted men each. Hence it may be stated without hesitation that, if the policy be adopted of adequate reparation for the national defense, the artillery of the Regular Army must be increased more than threefold.

The policy of the United States being strictly peaceful, aiming only at defense against foreign aggression, this nation will need a standing army of only moderate strength, with an adequate reserve to be called out only in case of war with one of the few great military powers. But it will need, very urgently, a small body of thoroughly trained experts in the use of the modern weapons, capable of directing the service of those weapons by the great bodies of comparatively uninstructed troops which must be relied upon in time of war with any one of the many naval powers. As before stated, those troops of garrison artillery alone must be not less than 85,000, and the number of trained experts at least 1,500, or three times the whole number now in service.

Each company of sea-coast artillery should have present for duty, in time of peace, 3 officers and 50 enlisted men; and there should be provided for each company a volunteer reserve, to consist of 3 officers and 200 men. This reserve should receive some instruction every year, and be always ready for instant service. It will be too late to recruit the regular batteries, and make the recruits effective in the first collision, after war is threatened. A powerful reserve is indispensable to the security of the sea-coast.

The sea-coast artillery reserve should not be organized into regiments, but only into companies, so that each reserve company would find its place as a part of a regular company, under an experienced captain and field officers. If thought desirable, volunteer or militia artillery regiments might be organized for some of the interior defenses, whose armaments will not require so great skill in their service. Seventeen regiments, of 2,500 men each, in addition to the proposed 17 regular regiments with their large reserves, would be necessary to man all the fortifications of the United States coasts.

Thirty-four light batteries (2 from each of 17 regiments) would give a fair proportion of field artillery to the 25 regiments of infantry and 10 regiments of cavalry now provided by law. By the organization of a proper volunteer reserve of infantry, field artillery, and cavalry, this small force could be quickly expanded into an effective army of 300,000 men, which would probably be sufficient to meet the first shock of war.

The foregoing suggestions are only intended to indicate the *minimum* of preparation believed to be indispensable to the national defense, but it would be neither expedient nor practicable to make so considerable an increase of the regular artillery at once. This should be done gradually, and only as rapidly as the necessary officers for the lower grades can be supplied from the Military Academy and the Artillery School. For the character of the *future* artillery, upon which the security of the country must largely depend, will be determined by the qualifications

of the *young officers of this generation*. Hence too great care can not be exercised in their selection and instruction. For all the higher grades in the increased force, and for the necessary instructors in the advancement of science of artillery, the present organization contains abundant material in the persons of officers of long and efficient service, who have earned many times over all the promotion they can possibly receive the proposed increase of the artillery.

I would suggest as the first step an addition equivalent to two regiments to the present artillery of the Army, leaving further additions to be made from time to time as the necessity for such increase becomes more apparent, and as competent officers for the lowest grade can be supplied.

It is essential to efficiency that the batteries in actual service, if only for instruction, have habitually with them a full complement of officers (one captain and two lieutenants) and a sufficient number of men (not less than fifty) to handle the heavy guns, besides the necessary gun details, etc. Hence a number of batteries corresponding to the number of company officers habitually absent on detached service should, at time of peace, exist only on paper. Upon the approach of war these detached officers would immediately return to their regiments. The batteries would be manned by a division with them of the trained non-commissioned officers and privates of the other batteries, and the filling up of all with recruits. Or the detached officers would be available for service with volunteers, where their services would probably be the most valuable.

All the higher grades of this additional force should be filled by selection from the present officers of artillery, according to length of service and efficiency, selections for each grade being made from the next lower grade. By this means could be corrected in a great measure the relative injustice which has resulted from the present mixed method of promotion, part regimental and part by arm.

LINEAL INSTEAD OF REGIMENTAL PROMOTION RECOMMENDED.

After the wrongs which have resulted from the present mixed system have thus been righted as far as practicable, promotions to the grade of captain should be made by arm, the same as to the several grades of field officers. Uniformity in promotion under like circumstances is one of the most essential conditions of the efficiency of an army. Nothing else does so much to dampen military ardor as the sense of hopeless injustice in respect to promotion. As an example of this, among the present first lieutenants of artillery the terms of service as second lieutenant varies from *nine months* to *eleven years*. So that, of two young officers starting under similar conditions and rendering essentially the same service, the one outstrips the other in the first stage of their career by *ten years* in the race for promotion to the higher grades. The result of this is, under the present law of retirement, that the younger in years, first reaching the highest grades, retain them until all those who are older but less fortunate have passed the age of retirement. Thus a large proportion of young officers having a few juniors in years promoted over them see at once that their cases are hopeless. They are doomed to perpetual inferiority, and must finally be set aside without any hope of the reward which every soldier covets. It will be seen from an examination of the Army Register that *eighty* of the present artillery officers have already been thus debarred from promotion to the rank of colonel, sixty-two from promotion to

lieutenant-colonel, and thirty from promotion even to the grade of major, except by the death or disability of officers who are *younger than themselves*. A reversal of the law of nature is their only hope. Surely an evil so destructive to military ambition should be remedied without unnecessary delay.

This evil is not peculiar to the artillery, but exists as well in the infantry and cavalry, and should be remedied as far as possible. This may be done, at least in part, if the change proposed in the regimental organization of the infantry is adopted, and promotions thereafter are made lineally in each arm, according to length of service as *lieutenants*, whether first or second.

. REDUCTION IN THE NUMBER OF LIEUTENANTS OF ARTILLERY DESIRABLE.

There is another defect in the artillery system, peculiar to that arm, which is an effectual bar to the degree of promotion essential to military efficiency. That is the existence of *three* lieutenants, and in time of war *four*, to every battery or company, instead of two as in the infantry and cavalry. This addition of fifty or one hundred per cent. to the number of lieutenants makes promotion to the grade of captain fatally low. There is no tactical or other military reason why a battery of artillery must necessarily have three or four lieutenants. And symmetry of organization, giving a regular and sufficiently rapid flow of promotion, is vastly more important than the convenience of having a third or fourth lieutenant to take charge of caissons or ammunition wagons, which an old sergeant could do quite as well. Any additional officers who may be required in time of war should be supplied from a volunteer reserve, and discharged at the close of the war.

I therefore recommend that the number of lieutenants of artillery be reduced to two per battery, the supernumeraries to be absorbed in the promotions to the grade of captain as vacancies occur or are created by law.

If this proposed change of organization is adopted, with the addition of two regiments to the present artillery organization, the only increase in the whole number of officers of artillery would be by the addition of twenty-two second lieutenants, which number could be supplied from the next graduating class of the Military Academy.

PROPOSED REORGANIZATION OF THE ARTILLERY.

Many artillery officers have proposed a corps organization, under a general officer as chief, as a remedy for the evils which all recognize. Much may truly be said in favor of such an organization. There are also some practical objections to it. Whatever may be the fact as to the balance of the arguments for and against such an organization, it would not, in my judgment, cure the great evils from which the artillery has so long suffered.

Some of the evils referred to I have endeavored to point out, and to suggest what I believe to be the appropriate remedy. Another is the lack of opportunity for employment in the line of their profession, much complained of by the most capable among artillery officers. This results in part from the want of any modern armament in this country, which want it is hoped will ere long be supplied, and in part from the fact that a large proportion of the highest and most scientific work, which in other countries is devolved upon officers of artillery, is here

performed by a special corps, the Ordnance Department. It does not appear how the organization of an artillery corps, still entirely distinct from the ordnance, would tend to remedy this evil. Apparently its effect would be to add another bureau to the War Department, and to transfer the artillery, like the staff, from the command of the general officers of the army to that of a staff officer in Washington.

If it were practicable to unite the artillery and ordnance in a single corps, so that the most capable officers of the entire corps might be selected for the technical work of construction, under their bureau chief, leaving the main body of the corps to serve, as the artillery now does, under the Department and Army commanders, the results of such a change might be wholly beneficial. But I refrain from any recommendation on this subject, except that officers of artillery be given some voice in the selection and testing of the materials they are to use in battle. The mechanical work of construction may well be left to mechanical experts, who have been specially educated and trained in that work. But the selection of kinds of material to be used in war, and the testing of the qualities of such material, should be entrusted, at least in part, to artillery officers, who must use the material selected, and who have, in addition to theoretical education, that knowledge which can be gained only by practical experience in service.

It is respectfully suggested that an inspector-general of artillery, serving on the staff of the general commanding the Army, might accomplish the good results to be expected from a chief of artillery.

SEA-COAST ARTILLERY RESERVE.

I venture to suggest that a large proportion of the militia of the Atlantic and Gulf States should be organized as heavy artillery, and that they might go into camp for a short period every year, with the regular artillery, at places on the coast where facilities exist for practical instruction in the use of sea-coast guns. At other times such troops would of course be instructed in the use of the musket, like the regular artillery and the infantry of the National Guard, and would thus be in condition for any service required by their respective States.

Such annual association of the regulars and militia would, it is believed, be beneficial to both, and it would establish, in advance, the relation and mutual understanding between them which ought to exist at the moment when war is threatened.

The joint encampment of batteries of the Second United States Artillery with the National Guards of Mississippi and Louisiana, which was held at Pass Christian in the month of August of this year, was an excellent illustration of the good which may be accomplished in this manner. That encampment was organized at the request of the adjutant-general of Mississippi, and Major Throckmorton, Second Artillery, placed in command of the camp, all the officers of the National Guard, without regard to rank, serving under him with voluntary alacrity for the sake of the desired instructions in artillery service and the discipline of camp.

It is deemed important that such joint service for instruction under regular officers be authorized by law, and that provision be made for adequate supplies of ammunition and other artillery material.

INFANTRY AND CAVALRY.

I heartily concur in the recommendations heretofore made by the highest authorities, that the regimental organization of the infantry be

anged to that of twelve companies, so as to make three battalions of four companies each, to adapt it to the demands of modern tactics, as well as for other reasons. If this be done, together with the change above suggested in the battery organization of the artillery, then the three arms will have the same organization, a uniform rate of promotion, and a fair chance for the rewards prescribed by uniform laws for continuous meritorious service.

The number of battalions in a regiment of twelve companies should not be fixed by law, but should be determined by the application of tactical principles to the circumstances of each case. It may often be convenient to form battalions of two, three, or five companies, instead of four.

A battalion no longer acts in battle as a single unit. The subdivision in action must often extend below that of companies, even to that of squads composed of a few riflemen. Four units of whatever size, whether sections, platoons, companies, battalions, regiments, brigades, or divisions, is the greatest number which should usually be placed under the immediate command of one officer. Three units are generally better than four. But with this proposed change the organization of the line of the Army will be very satisfactory.

I also recommend that the single grade of lieutenant be substituted for the two grades of first lieutenant and second lieutenant throughout the line of the Army.

THE CORPS OF ENGINEERS.

I also recommend that the battalion of engineers be increased, in the discretion of the President, to a full regiment, and that this regiment and the Corps of Engineers be defined as belonging to the line of the Army, so that officers of engineers when serving with troops shall be eligible to command according to rank.

It would be difficult to imagine a more palpable absurdity than that by which military engineers serving with an army in the field, or in the defense of fortifications, are rated as staff officers, not eligible to command.

QUALIFICATIONS FOR PROMOTION.

In my judgment one of the greatest needs of the military service is some test of qualification for promotion of line officers, and the application of such a test may, I believe, be justly entrusted to the senior officers of the same corps or arm of the service. It seems manifest that any officer who has habitually neglected his opportunities for improvement in the knowledge of his profession ought not to be considered worthy of promotion. Whether his opportunities have been those of service in garrison, or in camp, or in campaign through the mountains of Arizona and Mexico, his brother officers could be trusted to judge whether or not he had profited by such opportunities, or had culpably neglected them.

It is equally important that an officer's physical condition be such as to enable him to perform all his duties, and his promotion to a higher grade of service seems a fitting time to inquire into his physical as well as into his professional qualifications.

I therefore recommend that an examination of an officer's physical and professional qualifications be made a condition of his promotion, with the provision that should he be found incapacitated for service by

reason of physical disability contracted in the line of duty, he shall retired with the rank to which his seniority entitled him to be promoted.

For those lieutenants who take the course of instruction at Fort Monroe or Fort Leavenworth, their professional examination at the end of that course might well afford the necessary test. We now witness the strange spectacle of a second lieutenant utterly failing to meet the moderate requirements of those schools, yet receiving his promotion to first lieutenant, while a cadet at West Point who fails to meet a far more exacting course of that school is denied the commission of second lieutenant.

FIELD MANEUVERS OF MILITIA.

The United States have heretofore relied upon their geographical isolation, as well as upon their peaceful public policy, to exempt them from the necessity of preparation for war on a large scale. But this isolation has practically ceased. The recent vast increase in the means of rapid ocean transportation has changed the Atlantic from its former character of a barrier to the operations of a great army, into a secure, easy and cheap line of operation, of communication, and of supply for any nation having the necessary naval supremacy.

A large army, supported by an adequate naval fleet, may now cross the ocean and land upon the Atlantic coast or northern frontier of the United States in a few days. The landing of such an army, so supported, could not be prevented. Hence it would be necessary to meet it promptly with an adequate army in the field. If the organized militia of the States are to be relied upon mainly to meet such emergencies, it seems essential that those troops be prepared in all respects for such service. The preparation now most needed, next to a large increase in numbers, is probably practical instruction in field maneuvers on a large scale. In view of the constitutional limitation of the power of Congress, any effective measure to this end would doubtless require concurrent action on the part of Congress and of the legislatures of the several States whose troops were to take part in the maneuvers, and it seems to me extremely doubtful if such concurrent action could be relied upon to such extent as to make the militia effective as an army in the field. Even if this were accomplished, the present organized force would be but a small fraction of the army required to resist an invasion of the country by a great military power. Unless, therefore, the policy of the United States extends far beyond the training of the present militia forces, the measure would prove to be wholly inadequate and illusory.

Whenever it is determined in this country to enter in earnest upon the work of preparation for the national defense, it will probably be found best to organize a national volunteer reserve under the general power of Congress "to raise and support armies," to be apportioned among the several States, to be brigaded with the regular troops, organized with them into divisions and army corps, and called out for field instruction annually, long enough to make the whole effective as an army. Such reserve should be several times larger than the present organized militia of the States, it should be controlled in all respects by the National Government, and it should be given an amount of field instruction which it seems impracticable to give to the militia of the several States.

Uniform experience has shown that the militia called out for a short period upon the outbreak of war must be replaced as speedily as possi-

ble by a national force enlisted for a much longer period. But the conditions of modern warfare will hereafter make such a substitution impossible. Now the results of war must be determined by the preparations made in advance, simply because all nations except the United States are fully prepared in advance. It would be far too late to organize such an army as that which was finally victorious at Appomattox if the opposing army were at the outset what it became in 1862 or 1863. If the United States is ever compelled to engage in a foreign war it must meet at once such an army as that of the Potomac or that of Northern Virginia became after a year or more of actual service. Any preparation less effective than this would be only delusive, and hence worse than none. The United States should have at their command a volunteer reserve not less than three hundred thousand strong, fully organized and well disciplined, ready at all times for immediate service, and bound to serve three years if required.

The militia of the sea-coast States may be made much more effective in a comparatively short period of instruction for service as an artillery reserve than as infantry or cavalry. This for the reason that sea-coast artillery do not need instructions in field maneuvers, and only a small proportion of the men need to be marksmen, while of an army in the field every man should be a marksman, and all should be disciplined and drilled in the maneuvers of large bodies of troops. That is to say, while the small permanent force requires more complete and higher scientific instruction in the artillery than in the infantry or cavalry, the great mass of sea-coast artillery troops does not need so much instruction as is requisite for large bodies of infantry, cavalry and field artillery. For these reasons I would suggest that the militia of the States, with such instruction as can be given them, may be relied upon largely for the sea-coast artillery reserve, while the reserves for an army in the field should be made a strictly national force.

In conclusion, I take pleasure in commending the officers of the staff, as well as those of the line, and the troops serving in this division, for the faithful and efficient discharge of every duty.

Very respectfully, your obedient servant,

J. M. SCHOFIELD,
Major-General, U. S. A., Commanding.

The ADJUTANT-GENERAL, J. S. ARMY,
Washington, D. C.

REPORT OF MAJOR-GENERAL TERRY.

HEADQUARTERS DIVISION OF THE MISSOURI,
Chicago, Ill., September 22, 1887.

SIR: In obedience to the instructions of the Lieutenant-General commanding the Army, I submit the following report concerning operations in this division during the year past, and I forward herewith the same to the commanders of the departments composing the division period.

Annual report for 1886, the only changes that have been made in the organization of the division are the transfer from the Department of Texas of the post of Fort Hancock, Tex., which lies north of and

east and west line passing immediately south of the town of San Elizario and the transfer from the Department of Arizona to the Department of the Missouri of the post of Fort Lewis, Colo. No change has been made in the organization of the division; it still consists of the Departments of the Platte, Texas, Dakota, and the Missouri.

The Department of the Platte comprises the States of Iowa and Nebraska; the Territory of Wyoming (excepting Camp Sheridan, in the National Park); the Territory of Utah; and a portion of Idaho. It is commanded by Brig. Gen. George Crook, and contains 13 posts and stations.

The Department of Texas consists of the State of Texas, excepting the military post of Fort Elliott.

It is commanded by Brig. Gen. David S. Stanley, and contains 12 posts.

The Department of Dakota comprises the State of Minnesota, the Territories of Dakota and Montana, and the post of Camp Sheridan, in Wyoming. It is commanded by Brig. Gen. Thomas H. Ruger, and contains 20 posts and stations.

The Department of the Missouri comprises the States of Missouri, Illinois, Kansas, and Colorado; the Indian Territory; and the post of Fort Elliott, in Texas. Until his retirement from active service, on the 16th of April last, it was commanded by Brig. Gen. Orlando B. Willcox; it is now commanded by Brig. Gen. Wesley Merritt, and it contains 12 posts and stations.

During the year the following-named organizations have been added to the force in the division, viz:

Troop E, Sixth Cavalry, from the Division of the Pacific, August 26, 1887.

Troops B and F, Sixth Cavalry, from the Division of the Pacific, November 17, 1886.

Eighth Infantry, from the Division of the Pacific, October 25, 1886.

Twelfth Infantry, from the Division of the Atlantic, July 25, 1887.

The Headquarters and Companies F and H, Tenth Infantry, from the Division of the Pacific, January 7, 1887.

The Headquarters and Companies A, B, D, G, H, and K, Twenty-second Infantry, from the Division of the Pacific, November 17, 1886.

The following-named organizations have been relieved from duty here and ordered to other divisions, viz:

Troop L, Fourth Cavalry, to the Division of the Pacific, October 11, 1886.

Troop B, Sixth Cavalry, to the Division of the Atlantic, July 6, 1887.

The Headquarters and Companies F and H, Tenth Infantry, to the Division of the Pacific, February 23, 1887.

The Eleventh Infantry to the Division of the Atlantic, July 25, 1887.

Within the division the following-named transfers from one department to another have been made, viz:

Troops B, D, H, I, and K, Third Cavalry, from the Department of the Missouri to the Department of Texas, October 11, 1886, and July 20 and 25, 1887.

The Headquarters and Troops C, D, G, and M, Seventh Cavalry, from the Department of Dakota to the Department of the Missouri, July 25, 1887.

Troop L, Ninth Cavalry, from the Department of the Platte to the Department of the Missouri, October 5, 1886.

Company G, Eleventh Infantry, from the Department of the Missouri to the Department of Dakota, September 11, 1886.

The force in the division at this date consists of the First, Third, Fifth, Seventh, Eighth, and Ninth, and three troops of the Sixth Cavalry. Light Batteries F of the Second, F of the Third, F of the Fourth, and J of the Fifth Regiment of Artillery.

The Second, Third, Fifth, Sixth, Seventh, Eighth, Twelfth, Fifteenth, Sixteenth, Seventeenth, Eighteenth, Nineteenth, Twentieth, Twenty-first, Twenty-fourth, and Twenty-fifth Regiments, the headquarters and the companies of the Twenty-second Regiment, four companies of the Ninth, and one company of the Thirteenth Regiment of Infantry.

The total strength of these troops is 1,049 officers and 12,234 enlisted men, including general-service men and Indian scouts.

The following table shows the force in each of the departments:

Department.	Officers.	Enlisted men.	Total.	Indian scouts.	Total.	General-service men.	Total.
Nebraska.....	810	3,701	4,020	10	4,030	17	4,047
Platte.....	276	3,179	3,455	2	3,457	16	3,473
Colorado.....	244	2,901	3,145	130	3,275	16	3,291
Utah.....	107	2,453	2,650	20	2,670	15	2,685

The minor movement of troops, the changes of station which have been made within the departments respectively, and the details of administration are set forth in the reports of the department commanders, their staff officers and the staff officers on duty at these headquarters. An examination of them will show that the condition of the troops in respect to drill and discipline is good, that they have been well cared for, and that the supplies furnished for their use have been, almost without exception, satisfactory in quality and always ample in quantity.

The year has passed by with unusual quiet, and up to the end of the time covered by the annual reports from the Departments nothing requiring special mention had happened. Recently, however, events have occurred in Colorado, on the border of Utah, which demand more particular notice.

I quote at length a special report upon these matters, made by General Crook, in pursuance of instructions from these headquarters.

Coming from an officer of such high intelligence, great experience, and judicial temper of mind as General Crook is, I think that it must be accepted as presenting a just view of what has been popularly known as the Ute Indian War.

HEADQUARTERS DEPARTMENT OF THE PLATTE,

Omaha, Nebr., September 15, 1887.

SIR: In compliance with instructions contained in your telegram of the 26th ultimo, I have the honor to render the following report on the recent Ute Indian troubles in Garfield County, Colorado. These troubles arose from attempts made by Colorado officials to serve warrants on certain Ute Indians for alleged stealing of horses and for violation of the State game laws. Application was made to the proper State officials for exact data concerning the indictments found against the two Indians, Cibilo and Big Frank, for stealing horses, but up to the present date the information requested has not been furnished.

From other trustworthy sources, however, the facts of the matter were learned. In the county mentioned there has been living a number of men who gained a livelihood by gambling with the Indians, who have always made this part of the country their home.

The custom of these men has usually been to buy horses from the Indians, and then to regain possession of the money thus expended by playing "monte," or some other gambling game with them.

In April last two men, Tate and Woods by name, returned from the camp of some members of Colorow's band with a herd of some fifteen or twenty horses, which they

had, as above described, either won or bought from the Indians. As they were driving these horses through Glenwood Springs, Colorado, a man by the name of Hammond looked through the herd and claimed two of them as his property. He was informed that the horses had been obtained from the Indians. He sufficiently established his claim to induce Tate and Woods to deliver to him the animals he claimed. Returning to the Indians, they informed the Utes that they had been forced to give up two of the horses they had procured from them to a white man, who claimed them as his property. The Indians stated that a mistake had occurred, and to make up the loss to Tate and Woods turned over to them two other horses, which were furnished by Piah, an Uncompahgre Indian. In August, on the complaint of Hammond, indictments were found by the grand jury against Cibilo and Big Frank for stealing the two horses claimed by Hammond, as above stated, on his evidence and that of Tate and Woods. Warrants for the arrest of these Indians were issued and placed in the hands of James C. Kendall, sheriff of Garfield County, for service.

Early in August the game warden of Garfield County, Joseph A. Burgett, spent a week or more among the Indians. Returning to Meeker, he swore out warrants bearing a justice of the peace for the arrest of twelve Indians specified by name, "and others" for violation of the game laws of Colorado, of which offense they were undoubtedly guilty.

On the following day, August 9, with a posse of seventeen men, he went to a Ute camp on the North Fork of White River to serve the warrants. He entered the camp without molestation. The Indians suspected nothing of his intentions. Apparently without attempting to explain their objects or motives the whites suddenly seized several of the Indians. The latter then tried to get their weapons, some of which had been taken possession of by members of the posse. The Indians succeeded in breaking away and in recovering some of their weapons, at the same time running for the cover of the brush. At this juncture the posse fired on them, wounding Big Frank and two others. The Indians having reached the brush, the posse retired and united forces with Kendall, who by this time had reached Meeker, summoned a posse, and started out to serve the warrants he held. Hearing of an Indian camp on Coal Creek, he sent a party to it. The squaws and children who occupied it, seeing their approach, hurriedly abandoned the camp. The posse burned the tepees and a large amount of buckskins. On the 14th an urgent message from the Indians requested an interview with two prominent citizens of Meeker in whom they had confidence. In response to this request these gentlemen went to Coal Creek, meeting Colorow and his band who were greatly alarmed by the repeated attacks that had been made upon them. They asked what it meant, and why they were made.

Colorow did not consent to give up the Indians, but said he would leave the country as soon as was possible. He required fifteen days for this purpose, as it would be necessary for him to gather his herds of horses and sheep, and drive them to the reservation, which was over 100 miles distant. He also urged that he would have to travel slowly because of the wounds received by some of his band. Colorow began at once to collect his herds near the headwaters of Coal Creek.

About August 17 Kendall returned to Meeker for supplies and re-enforcements. He increased his posse until it numbered about fifty men, and on the 20th again started in pursuit of Colorow's band, disregarding the assurances that had been given the Indians that they would be allowed fifteen days in which to go to their reservation, and stating that this time was only desired by Colorow in order to get re-enforcements and prepare for war. A force of Colorado militia arrived at Meeker August 22. This force was under the command of Brig. Gen. Frank Reardon, C. N. G., who had orders to "assist James Kendall, sheriff of Garfield County, Colorado, in the execution of civil processes issued by the district court in and for said county."

On the same day a letter from Kendall was received by the commanding officer of the troops at Meeker, requesting that a force of one hundred men be sent down the White River to the Blue Mountains for the purpose of intercepting the Indians, who were retreating before him to the northward of Meeker in the direction of the Ute Reservation. In accordance with his request, one hundred men, under the command of Major Leslie marched on the following day. They were encamped at Wolf Creek on the 24th, where they were joined by Kendall and his posse, which now numbered eighty men. On this date an interview was held with Eney Colorow, in which it was agreed by the whites that matters should remain as they were until the "Big White Chief" should arrive. The Indians understood this agreement to be that they should be allowed to go unmolested to their reservation.

Eney Colorow is a son of Colorow, and speaks fairly good English and understands it perfectly. At the conclusion of the interview he shook hands with Major Leslie and returned to his camp. During the night of the 24th and 25th a heavy storm of rain and hail arose, during which the Indians started down the White River and moved about 25 miles below Wolf Creek to a point, as they believed, on the Uncompahgre Indian Reservation.

Here they went into camp, turning out their ponies to graze on the neighboring bluffs. The White River at this point makes a bend, while the bluffs run more nearly in a straight line. The "bottom" between the foot of the bluffs and the river is covered with a thick growth of willows. The Indian camp was scattered along the edge of the willows and near the foot of the bluffs, which are here about 60 feet in height. The news that the Indians had moved their camp soon reached the whites, and they started at once in pursuit, reaching Rangely at some time during the night.

At daybreak they left Rangely, which is about 8 or 10 miles above the Indian camp, and at about 7 a. m. they struck the Indians, as the latter were preparing their breakfast. They believed themselves perfectly secure; no sentinels or runners were guarding the approaches to the camp, and the whites attained a position on the bluffs without alarming the Indians. Kendall's party at once opened fire. The surprise was complete. The Indians took refuge in the brush, and returned the fire for about three and a half hours, covering in this way the removal of their wounded and the women and children. Late in the afternoon they fell back, the whites soon after withdrawing to Rangely. In this affair the whites lost in killed Frank Folsom, a lieutenant of militia, and Jasper Ward, a deputy sheriff. A man by the name of William Gosshorn, in an attempt to run off a small band of Indian ponies, was shot and killed soon after the fight.

Several others were wounded. The Indians lost one small boy killed; one "buck" and one squaw were wounded. The whites numbered 180 men, 100 being militia, the remainder being cow-boys and others. The Indians numbered not more than 25 fighting men. The whites justify their attack on the ground that the Indians broke faith with them in moving their camp as above related.

On the day upon which this affair occurred, Lieut. G. R. Burnett, Ninth Cavalry, with 12 colored troopers, was at the Ouray (Uncompahgre) Agency, witnessing the payment by Agent Byrnes of annuity funds to the Indians of that agency. All the Indians belonging to the reservation were there present to receive the money due them.

No evidence of any hostile feeling had been manifest among them up to this time. On the contrary, they had on one occasion sent a delegation of some of their headmen to Colorow on a mission, the object of which was to prevent him from engaging in hostilities. In the afternoon of this day, however, a runner came to the agency bearing the news of the attack upon Colorow, when the latter was, as the runner declared, on the reservation. The Indians became at once greatly excited, and urged Lieutenant Burnett to go with them to meet the Colorado troops and prevent an invasion of their reservation. He assumed the responsibility, without waiting for orders, of starting for the Colorado line, in company with a large and constantly-increasing number of warriors, superbly armed and mounted, and who were at times excited to a frenzy by the reports which met them from the front. On arriving at midnight (August 25-26) near the scene of the fight, the number of warriors had increased to about 150, exclusive of Colorow's band. On the 26th Lieutenant Burnett and Major Leslie had an interview in which the latter agreed not to cross the reservation line, unless armed with legal authority to do so. By the influence of Lieutenant Burnett, Agent Byrnes and Interpreter Curtis, the Indians, including Colorow's band, were induced to go to the agency, where they arrived August 27. They were loath to go, however, until they had secured the stock which they had lost. It was promised them that efforts would be made to secure it for them, and on this assurance they went. The Indians thus pushed from Colorado possessed, when these troubles began, between 300 and 400 head of horses and about 2,500 head of sheep and goats, which, as a Denver paper states in rather contradictory terms, "the lazy vagabonds carefully grazed in the rich valleys of the State." These herds were at the outset scattered over a considerable extent of country, and being compelled to leave the State on short notice, and so to speak at the point of the bayonet, it was impossible for them to collect all of their stock. Their sheep and goats they were forced to abandon entirely in their passage through the State. They were at once taken possession of by white men. When at Meeker, on August 31, I heard of one band of about 500 of these sheep, which some parties were driving toward Glenwood Springs. Their horses the Indians kept as long as was possible, but very few remained to them after the affair of August 25. Seventy-four were taken by the State to remount their troops. Many more were taken by Kendall and his posse. The names of several men who had possession of Indian stock were known to Governor Adams on August 31. The heaviest losers are Colorow and Chipeta, formerly wife of Ouray. From the outset the Indians were, with but one slight interruption, pursued incessantly; in every case the whites were the aggressors, and fired first. Colorow had no desire whatever to fight, and made use of his weapons in self defense only, for the protection of his women and children and his herds.

During the whole time they were pursued and including the losses in the fight of August 25, five Indians died from effect of wounds received, viz, one "buck," one large boy, one small boy, and two small girls. Seven others were wounded, one perhaps mortally.

It was extremely fortunate that Lieutenant Burnett arrived upon the scene of action as he did. There can be no doubt, and it was so stated by Brigadier-General Reardon, that his presence saved the lives of Kendall's entire party and prevented a serious outbreak.

The conduct of the Indians throughout this affair may be explained by the fact that Colorow has but little popularity among the reservation Indians; he was not sure of the support of the Ute Nation. He was in a country quite thickly settled by the whites; he had large herds to care for, which would certainly be lost to him if he became involved in hostilities. After his first encounter with Kendall's posse he had his wounded to shield. The season was too far advanced. He was in nowise prepared for war, did not expect it, and was surprised and alarmed at the persistency with which Kendall and his party pursued his women and children, who were engaged in gathering his herds and driving them toward the reservation.

There is no doubt but that the warrants could have been served without difficulty had their service been properly undertaken. It was urged by Governor Adams, by Mr. Symes and others, that the Indians had been promised a change of venue, and all other legal guarantees of a fair trial, if they would peaceably deliver themselves up to the civil authorities. This statement is based on an order issued by Adjutant-General West, by command of the governor, August 23. This was after the Indians had been pursued for about two weeks, and repeatedly fired upon by Kendall's posse.

Besides the specific acts for which the Indians had been indicted, they were charged with killing cattle from time to time. The only evidence of this was that cattle had been occasionally found on the ranges that had been shot by parties unknown. In a country containing many reckless and unprincipled white men, it is as likely that the cattle were killed by them as by Indians. It was affirmed, also, that the Indians were a constant annoyance to settlers. It was stated that they had committed no other depredations than those above mentioned.

The conference directed by the President to be held between Governor Adams and myself took place at Meeker, Colo., August 31 and September 1, 1887.

Colorow and his band at this date had already gone to the reservation, as above stated. It was the desire of the governor that they be kept there. He feared they would return to seek revenge for their losses, and asked that troops be placed at Rangely, and at other points on the Colorado boundary-line. He stated that the militia was now at Rangely, but it could not be kept there very long, since the men were business men who could not afford to be long absent from their usual avocations. If the militia were removed, and the United States troops did not supply their place, the White River Valley would be without protection. The people would feel unsafe and would not return to their homes. Loss and hardship would result. The governor further demanded assurances that the Indians would hereafter be kept on their reservation.

In reply, I declined to place troops at Rangely as requested, for the reason that they would, in reality, form no protection to the scattered ranches of the country. Their presence would only engender false sense of security which would only result in greater disaster, did the Indians actually begin hostilities. To give rise to such a feeling of security when it did not exist would be a criminal act, to which I could not give assent.

The Indians had left the State, but they left it with a grievance. They felt that they had been outraged. They had suffered the loss of the stock which constituted their chief wealth. This had been stolen from them by the whites. So long as this grievance lasted no assurances could be given that the Indians would not return. Their stock, or its equivalent, should be restored to them; even if it were not justice, it would certainly be policy to do so. If restitution were made, with proper control and management, they might be held on their reservation. No assurances or promises were made by me at this conference, other than those herein stated. Up to the present date (September 15), so far as heard from, of all the stock lost by them, 125 horses have been returned to the Indians. This number includes the 74 taken for the use of the State.

Colorow and his band are at the Ouray Agency, and at latest advices are reported as quiet.

I close my report by calling attention to the conduct of Lieutenant Burnett. Throughout his whole connection with this affair he has shown both discretion and decision. His cool judgment under trying circumstances undoubtedly saved many lives.

Copies of correspondence relating to these troubles are hereto appended.

Very respectfully, your obedient servant,

GEORGE CROOK,
Brigadier-General Commanding.

ADJUTANT-GENERAL,
War Department, Division of the Missouri, Chicago, Ill.

I do not think that any comment upon this report, or upon the painful facts that it discloses, can be necessary. These facts speak for themselves. Moreover it is not within my province to criticise the actions of the civil authorities whose part in these transactions is set forth. I may, however, be permitted to say that if General Crook has been deceived, the methods pursued by the civil authorities of Garfield County were, to say the least, unusual.

I do not understand that the burning of the unoccupied habitations of persons, for the arrest of whom warrants have been issued, and the burning of the habitations of their friends and neighbors, or the opening of the fire without warning, upon an unsuspecting body of men, women, and little children, among whom persons for whose arrest warrants have been issued are supposed to be, are usual steps in the service of process.

I desire to express my thanks to the staff officers serving at these headquarters for the very zealous and efficient manner in which they have performed their respective duties, and I invite attention to the suggestions and recommendations made by them in their reports.

I have the honor to be, sir, very respectfully, your obedient servant,

ALFRED H. TERRY,

Major-General U. S. Army, Commanding.

The ADJUTANT-GENERAL OF THE ARMY,

Washington, D. C.

REPORT OF MAJOR-GENERAL HOWARD.

HEADQUARTERS DIVISION OF THE PACIFIC,

San Francisco, Cal., September 22, 1887.

GENERAL: I have the honor to submit the following report for the information and consideration of the Lieutenant-General:

CHANGES OF HEADQUARTERS, DEPARTMENT LIMITS, AND ABANDONMENTS.

Since the date of my last annual report, and in November, 1886, the headquarters of the Department of California and of the Division of the Pacific have been changed from the Presidio to the city of San Francisco. This change has facilitated the public business and greatly benefited the Presidio. Commodious and comfortable quarters for offices in the business center of the city were secured at a moderate rental and are now occupied.

A change of the headquarters of the Department of Arizona from Whipple Barracks, Ariz., to the city of Los Angeles, Cal., in January last, has not been detrimental to the interests of the service, and has given ampler and pleasanter accommodation. At the same time, all that portion of the Department of California lying south of the thirty-fifth parallel of north latitude (including the post of San Diego Barracks) was transferred to the Department of Arizona. Fort Bliss, Tex., has been transferred from the Department of Arizona to that of Texas, and also Fort Lewis, Colo., to the Department of the Missouri. Fort Halleck, Nev., has been abandoned; the troops have been withdrawn from Fort Winfield Scott, Cal., and the premises included within the post of the Presidio of San Francisco.

MOVEMENTS OF TROOPS IN THE DEPARTMENT OF CALIFORNIA.

These movements have been few in number, and changes of station have been made only when actually necessary, and at the least possible cost. For a detailed statement see Appendix marked A.*

After the cessation of the Apache hostilities in Arizona, the Eighth Infantry was transferred from that Department to the Department of the Platte, in November, 1886.

COAST DEFENSE.

Permit me to again call attention to the subject of coast defense. I am aware that there is a Board, of which the honorable Secretary of War is the chairman, which has this matter under advisement; but I must say that it is no more than to be expected that the necessity for speedy action is constantly pressed upon the attention of the division commanders. The Engineer Department on this coast is ably represented, and there is no blame to be attached to any executive department for the present abnormal condition of the fortifications on the Pacific slope. My last year's statement, which is still applicable, was as follows:

The forts are not in order; they are not armed with guns of the proper caliber, and what is worse, there are no guns of the right size and power in the whole country to bring here. * * *

Again:

California is too rich a State to be left completely at the mercy of other nations with whom any day we may have a serious conflict. Once lost the regaining would involve millions more than the cost of a simple and proper system of defensive works.

During the year provision has been made to increase the naval armament, but the subject of permanent fortifications has not yet been acted upon by Congress. The delay has doubtless been occasioned by the constant changing of the character of heavy guns and the consequent modifications of the forts themselves. But according to present appearances, forts and armaments may be now secured which will serve our purpose for many years. No foreign nation is likely to change often its arrangement for defense, now that the expense of heavy guns with the largest penetrating power has become so enormous.

Then, may we not consider, particularly with regard to San Francisco, that, though the expense is considerable, the working classes will reap the benefit of the expenditure?

In order to give the subject a fuller consideration, I hereto attach, marked B,* the able report of a committee of the California legislature. This committee urges such an appropriation as will protect our harbors against all foreign invasion.

DESECTIONS.

The amount of desertion in the Division of the Pacific this year has reached nearly eight per cent. This is more than two per cent. increase over the loss from this cause last year, the Department of Arizona furnishing the largest percentage of the increase and the Department of California the smallest. The reason for this increase is difficult to determine. Attention is especially invited to the reports in detail of the department commanders and of the acting judge-advocate of the Department of the Columbia on this subject. It is certainly wise to take some proper precaution against the constant re-enlistment under new names of those who have already deserted the service.

* Omitted.

I am still strongly of the opinion that a shorter first enlistment would be beneficial, making less desertions and enabling recruiting officers to secure a larger proportion than now of good reliable men.

INSTRUCTION.

There has been a noticeable advance in the instruction and discipline of the troops in the division during the past year.

There is a proper spirit among the officers generally; but the companies when full are small, and practically much less than full.

So long as the majority of the soldiers are required to labor daily at all kinds of work in garrison and about the reservations, work that should properly be performed by hired labor, just so long, in my opinion, will the gauge of instruction be low.

There has been a marked improvement in the rifle practice of the division, and the standard attained at the division contest is higher than before; but a comparative statement is not yet practicable, owing to the fact that the target year is not yet over, particularly in Arizona, where it has been extended.

The First Regiment of Infantry, Colonel Shafter, marched to Santa Cruz, Cal., and was encamped there for purposes of instruction during two months of the summer. The results of this school have been in the highest degree satisfactory. No troops ever behaved better or were more thoroughly drilled. This encampment, besides the good accruing from it to the service, has served to establish cordial relations with a large portion of the surrounding population. It also afforded opportunity for State troops to be encamped in the vicinity, and thus observe Regular Army methods.

COURTS-MARTIAL.

I can but renew my recommendation of last year for a simplification of courts-martial; particularly the giving of some general regulation or the enactment of a general law which will secure equitable punishment for similar offenses throughout the Army. The variations are now very marked, varying according to the constitution of the court and the will or judgment of different reviewing officers.

That desertion should be regarded as a *continued offense* up to the time of the expiration of the term of enlistment seems to be pretty well established; but it is not clear by any existing decision that the crime is to be regarded in law or in usage as perpetual.

Certainly the decision with regard to it should come from the War Department, that the action of the courts in the premises throughout the Army may be uniform.

SUPPLY DEPARTMENTS.

The administration of these departments has been efficient, and has given general satisfaction. The time is not far distant when it will be unnecessary to purchase in the East and ship hither a single article needed. I again recommend an improvement in the soldier's ration, and that company cooks be especially enlisted.

HORSES.

I renew my recommendation of last year in regard to the purchase of horses for this division. There are no better horses for the cavalry service required raised in the United States than those that can be pur-

chased in northern California and Oregon, at a price far below the cost of those shipped here from the East. If it be deemed unadvisable to establish a horse depot at the Presidio, I would suggest Fort Bidwell for that purpose. If it were generally known by horse-raisers that San Francisco, like Saint Louis for the East, was the market in which the Government would buy horses for this division, there would be no doubt of our being able to secure all that may be needed.

GENERAL SERVICE CLERKS.

This useful body of men have severally and satisfactorily performed the clerical labor of the staff departments committed to them.

Charged with work of a similar nature to that of the civilian clerks at department and division headquarters, they yet receive a much smaller salary. Congress, in fixing their present pay, recognized this difference, and, to equalize matters, gave them the benefit of the retirement act for enlisted men. They are, almost without exception, men who have had long and honorable service in the ranks; are married and have families, and as entitled, would gladly take advantage of the retirement law, if it were only possible to live on the allotted pay. I recommend that a change be made in the law or regulations so that they may be ranked for retirement as follows: Class 3 with hospital stewards; class 2 with ordnance sergeants; class 1 with quartermaster sergeants; and general service messengers with sergeants of the line.

The reports during the year of the division inspector have been very full, and make many valuable suggestions and recommendations, especially upon the subjects of defectiveness of our infantry and cavalry tactics; promotions of junior officers; the ages of paymasters and chaplains; the percentages of absentees from regiments; character of recruits, and how remedied; tactical instruction with magazine guns; labor of the troops; the smallness of the companies and batteries; rifle practice and skirmishing.

INDIANS—DEPARTMENT OF THE COLUMBIA.

Indians in this department have been generally quiet. Chief Joseph and his band upon the Colville Reservation have been secured in their rights, but the sending of a force by the department commander was necessary to overawe the Indian malcontents who opposed them. This had the desired effect.

Modocs and Klamaths.—Quite a number of families of Modocs and Klamaths who have settled in severalty on the reservation in southern Oregon, between Bly and Linkville, have good homes of their own, send their children to school, and appear to be contented and doing well in every way.

They raise grain and have considerable stock. Now, by some recent decision, an old road company has, I understand, acquired patents or titles to these Indian homesteads. It will be a sad cruelty to disturb these Indians or their possessions within the limits of their own reservation, and no one can predict the consequences of forcible eviction. I recommend that the attention of the Interior Department be called to this matter and that at whatever cost the "Old Road" men holding patents be awarded lands elsewhere than on this peaceful and prosperous reservation.

The several recommendations in General Gibbons's report, to which attention is invited, are concurred in.

INDIANS—DEPARTMENT OF CALIFORNIA.

Round Valley.—I call particular attention to my special report, forwarded September 15, 1887, concerning the Round Valley Indian Reservation.

Thirty-three thirty-fourths of this reservation are in the hands of white stockmen. Some four of them hold under a quasi possessory title, but the majority have no title whatever that is recognized for settlers on the public lands. This disgraceful state of affairs, which has existed at Round Valley for so many years, has at last secured the attention of the authorities of the Indian Bureau, and a proper requisition has been made for military force to assist the agent in removing these trespassers. Troops have been promptly sent. I again earnestly recommend that the attention of Congress be called to this matter at an early day, and another effort made to procure the simple remedy so often suggested, but which has as often failed.

The wealth and Congressional influence of these trespassers or questionable occupants of the Indian lands should no longer be able to prevent this end. In my opinion, unless Congressional action is speedily taken serious complications will ensue, and the Government will be continued in the humiliating position of being outwitted and defeated in its efforts to see justice done to one of the most harmless and peaceful of its Indian tribes. Attention of the Indian Department should be also called to the open and unrebuked selling of whisky to these Indians constantly carried on at Covelo, near the reservation.

Hoopa Indians.—Owing to the necessity of having a speedy report concerning the Hoopa Valley Indians, and especially with regard to some troubles arising from their fisheries on the Klamath River, I directed Major Morgan, my chief commissary of subsistence, to make a full investigation of the facts.

Extracts from his interesting report are attached, and marked C.*

He says in closing: "I do not recommend that the post of Fort Gaston be abandoned at present, as I consider that the visible presence of the power of the Government is necessary for the protection of the Indians from encroachments of white men, from the mouth of the Klamath River up to and including those on the Hoopa Valley Reservation." In this opinion I concur.

The time has not yet arrived for withdrawing the garrison of this post.

INDIANS—DEPARTMENT OF ARIZONA.

Hualpais.—This tribe consists of 730 people, and was, in July, 1881, assigned a reservation on the Colorado River, bordering the Grand Cañon.

The land in almost its entire extent, according to reports, is desolate, unproductive, and waterless, yielding sparsely even the usual desert fruits.

What little game there was has been driven away by the encroachment of settlers, and the Hualpais are reduced to a chronic state of starvation. From December, 1881, to April, 1882, a small supply of beef and flour was authorized. During the remainder of 1882 and 1883, food was refused them on account of lack of funds. In 1884 and 1885, \$5,000 each year was furnished by the Interior Department to purchase a two-thirds ration of beef and flour. In November, 1886, \$5,000 was again supplied. The food thus purchased was exhausted June 27,

* Omitted.

1887. Urgent appeal was made April 19, 1887, by the commanding general of the Department of Arizona, for an additional \$5,000, to keep these Indians from starvation or from pillaging the ranches. I concurred in the request, and also asked that a medical officer might be sent to the reservation on account of the epidemic of measles then prevailing. I am not advised that the money last asked for was furnished. I again earnestly call attention to the pitiable condition of these Indians and respectfully urge that a better reservation, such as the Hualpai Valley (just west of the present location, 30 miles long by 15 wide, at present unoccupied), be given them, and, until self-sustaining, provisions be made for their support.

A serious complication sprang up on the Navajo Reservation, which gave rise to the usual exaggerated account. Through the able intervention of the district commander, Colonel Grierson, the troubles were amicably settled.

A telegram of the department commander, dated February 12, 1886, reported that the Jicarillo Indians, from whom disturbance was feared, were peaceably disposed, and desired to take up lands in severalty on their old reservation.

Apaches.—On October 19, 1886, Captain Cooper, Tenth Cavalry, captured and brought to Fort Apache Mangus and his party, consisting of 2 men, 3 women, 5 children, 5 ponies, and 27 mules.

These Indians belong to the Chiricahua Apache band, and, having eluded capture hitherto, were pursued by Lieut. O. P. Johnson's (Tenth Cavalry) detachment and others, from September 7, 1886, till they were brought in. They ranged through southern New Mexico and Chihuahua.

In accordance with instructions from the Lieutenant-General, this party of Indians was sent to Fort Marion, Fla., leaving Fort Apache October 30, 1886, in charge of Lieutenant Olay, Tenth Infantry, who reported the attempted escape of the leader. He jumped through the window of a car while the train was moving at 35 miles per hour.

Three San Carlos Apaches had been killed within a few months, and so to escape arrest, on the 28th of May 5 Indian scouts, with some confederates to the number of 17, broke from the reservation. The renegades, on the 3d of June, near "Mammoth" Mines, Arizona, killed William Diehl. The same Indians killed Mike Grace, 7 miles northwest of Huachuca, on June 8. The troops were in pursuit.

June 11, Lieutenant Johnson, Tenth Cavalry, struck the renegades on the top of Rincon Mountains, and forced them to abandon horses, saddles, and blankets in their flight. He trailed them toward the reservation. A dispatch of June 15, from General Miles, reported their surrender at San Carlos and that a general court martial had been ordered to try the renegade scouts, 5 in number. The result of this trial has never been reported to these headquarters.

Owing to an unsettled state of affairs on the San Carlos Reservation the department commander, under date of July 10, recommended a removal of a part of the Indians to other reservations held by the Government; and in order to keep the Indians from any meditated foray or disturbance, he, pending the decision of superior authority at Washington upon his plans of dispersion, sent a delegation of them under escort to visit the Mojave, Verde, and other reserves.

After fully looking into the subject through the division inspector, it was concluded, in view of all the facts, that it would be unwise to attempt the separations proposed. Indeed, to disperse the Indians within the Department of Arizona would be but spreading the plague of India

disturbances instead of curing it. If removal becomes necessary, it should be to a greater distance.

The sickness and death of Indian children were found to be much less than at first reported. However, it will be a difficult matter, considering the variety of Indian bands brought together, and the strong desire of certain white men for their lands, which prompts them to foster disturbance, to preserve the peace at San Carlos without considerable friction. Attention is called to the more detailed reports and recommendations of the department commander on this subject; further, to his recommendations concerning Fort Thomas, Ariz., and Fort Wingate, N. Mex., which latter are concurred in.

With regard to the post at San Diego, Cal., I agree with the department commander as to the necessity of a new post, but have not regarded Point Loma as favorably situated for all the purposes had in view. Difficulties arose originally concerning smugglers who crossed the line by land. It has appeared to me wise to place the post somewhere between San Diego and the Mexican boundary.

It is well to emphasize the earnest request of the department commander for suitable appropriations for buildings, both for construction and repairs.

Probably the time has now come when some more permanent arrangement of all the posts on the frontier between Mexico and the United States can be made, and so ample quarters, commodious and respectable, can be secured for the garrisons.

The posts that can be properly abandoned in this division are Forts Klamath, Canby, Verde, Thomas, Selden, and McDermit.

On the part of my general and personal staff, there has been uniformly diligent attention to duty and conduct in every relation, worthy of high commendation.

The annual reports* from the departments and from the staff officers at these headquarters are herewith submitted.

I am, sir, very respectfully, your obedient servant,

OLIVER O. HOWARD,
Major-General, Commanding.

The ADJUTANT-GENERAL OF THE ARMY,
Washington, D. C.

REPORT OF THE ADJUTANT-GENERAL.

WAR DEPARTMENT,
ADJUTANT-GENERAL'S OFFICE,
Washington, October 8, 1887.

SIR: I have the honor to submit my annual report for the year ending September 30, 1887.

MILITIA.

Following a now well-established custom, and in compliance with formal requests of States authorities, officers of the Army were detailed during the past summer and fall to inspect militia encampments at the following points:

Alabama.—At Montgomery and Selma, by Second Lieut. John T. Thompson, Second U. S. Artillery.

* Omitted.

California.—At Healdsburg, by Col. W. R. Shafter, First U. S. Infantry.

Dakota.—At Huron, by Col. E. F. Townsend, Twelfth U. S. Infantry.

Delaware.—At Rehoboth, by Maj. H. S. Hawkins, Tenth U. S. Infantry.

Illinois.—At Springfield, by Capt. Jacob Kline, Eighteenth U. S. Infantry.

Iowa.—At Ottumwa and Waverly, by Lieut. Col. E. C. Mason, Fourth U. S. Infantry.

Michigan.—At Island Lake, by Col. H. M. Black, Twenty-third U. S. Infantry.

Minnesota.—Near Fort Snelling, by Lieut. Col. J. J. Van Horn, Twenty-fifth U. S. Infantry; at Mankato, by Capt. S. W. Groesbeck, Sixth U. S. Infantry.

New Hampshire.—At Concord, by Maj. R. H. Jackson, Fifth U. S. Artillery.

New York.—At Peekskill, by Col. E. F. Townsend, Twelfth U. S. Infantry, and Maj. R. Lodor, Third U. S. Artillery.

Ohio.—At Cleveland, near Port Clinton, and also near Galion, by Capt. J. T. Haskell, Twenty-third U. S. Infantry; at Delaware, by Second Lieut. E. S. Benton, Third U. S. Artillery; at Washington Court-House, Findlay, Union City, Delaware, Wilmington, Dayton, Lancaster, and New Lexington, by First Lieut. A. C. Sharpe, Twenty-second U. S. Infantry.

Pennsylvania.—At Mount Gretna, by Col. E. S. Otis, Twentieth U. S. Infantry.

Vermont.—At Bennington, by First Lieut. E. H. Catlin, Second U. S. Artillery.

The reports, appended hereto, of the several inspecting officers are highly interesting and instructive. The steadily increasing interest manifested by the militia of the States is evidenced by the high percentage of attendance at the annual encampments and the generally excellent military spirit of the troops. With the liberal increase of the appropriation made by Congress at its last session for the benefit of the militia, it is earnestly hoped that the State military authorities will, by an increased allowance of ammunition, foster and develop the efficiency of the rank and file in target firing.

The care of his weapon is an important duty of a soldier, and therefore, while many company organizations include an armorer, his duties should not be those of an absolute care-taker, but rather as an instructor of the men of the company, except in rare cases, where his services as an expert are a necessity. Much benefit would undoubtedly result from the establishment, during each encampment, of an officers' school for instruction in battalion drill and the administration of a post. As the correct handling and management of a company depends measurably on the intelligence and knowledge of its non-commissioned officers, I would also suggest the advantage of holding weekly, during the winter months, a non-commissioned officers' school (the captain as instructor) for instruction in company drill, duties of guards and sentinels, and the administration of a company. Young officers of the Army could be spared during the winter, to report to the adjutants-general of States, on application of the governors, to aid in the instruction of both officers and non-commissioned officers.

While it is evident that still many earnest workers in bringing up the militia to its highest efficiency seem to regard mechanical perfection in drill as the great desideratum in the art of war, evidences are not lacking to show the development of the truer perception—that knowledge of mil-

itary duties, the cultivation of individual powers, endurance, intelligent but cheerful obedience, are, in truth, the real characteristics of the citizen soldier of the Republic.

MILITARY COLLEGES.

The data in the statement herewith, tabulated from the reports of the officers performing the duties of professor of tactics and military science at the enumerated universities and colleges, are generally satisfactory and evidence a widening sense of appreciation of the positive value—beyond a mere disciplinary point of view—of the early and partial instruction of the youths of the country in military studies and habits. The average number of students attending these institutions was 6,692, of whom 660 attended artillery drills and 3,273 infantry drills. With marked aptitude on the part of the pupils, it is evident that the measure of their interest in military instruction is affected in an appreciative degree by that of the college authorities, and it is regretted, therefore, that in some few cases the zeal of the student was rendered ineffective by the lack of co-operation by the faculty with the efforts of the professor of military science.

The recent inspection of colleges having military details has resulted in great benefit, and its continuance, under special instructions from the War Department, is recommended.

ENLISTED RETIRED LIST.

Since the date of my last report 43 men, classified as follows, have been retired:

Ordnance sergeants	12
Commissary sergeants	2
Hospital stewards	3
Sergeants of ordnance	3
First sergeants of the line	3
Sergeants of the line	8
Corporals of ordnance	1
Corporals of engineers	1
Corporals of the line	1
First-class privates of engineers and ordnance	1
Privates of the line	5
Chief trumpeters	1
Musicians and trumpeters	2
Total	43

Six deaths have occurred since October 1, 1886, viz:

Ordnance sergeants	3
Sergeants of ordnance	1
Sergeants of the line	1
Corporals of the line	1
Total	6

and two applications for retirement are now pending.

PAY OF NON-COMMISSIONED OFFICERS.

Much of the efficiency of a company depends on its non-commissioned officers. The very small increase of the pay of this class, totally incommensurate with the responsibility attached to it, is not a sufficient incentive to tempt the best and most reliable soldiers to accept the position, while it is often to the pecuniary advantage to the man to remain in the ranks. This is forcibly illustrated by the following recent

case: A soldier in one of the infantry regiments, having earned an excellent character for reliability, sobriety, and industry, was selected for appointment as corporal. His promotion worked him a positive pecuniary injury, for his pay as a corporal fell below that he received as a private on extra duty in the quartermaster's department. His request to be returned to the ranks having been refused, discontent lost to his company and to the Army a man who in his two years' service had never made himself amenable to punishment, and who was "sober, faithful, industrious, efficient." While the desertion of this man makes his case exceptional, there are many instances where privates have declined or resigned appointment as non-commissioned officers simply because of this loss of pay—a private on extra duty receiving more pay than the sergeant major or quartermaster sergeant of a regiment. That this fact is not only wrong but pernicious in its effects needs no argument. The pay of the lowest non-commissioned officer should not be less than \$25, and the pay of the entire class readjusted on the suggested pay for the lowest position to \$50, or \$55 for the highest.

The grade of non-commissioned officer is the intermediary between the lowest in the Army, that of private, and the highest, the commissioned officer. The line of demarkation between these three classes should be as strongly accentuated downwards as it is upwards, and this is demanded alike by justice to the non-commissioned officers and proper regard for the discipline, efficiency, and *morale* of the Army.

DISCHARGES.

The presence in the ranks of nearly 70 per cent. of the legal strength of the Army with a service ranging from three to thirty-five years indicates clearly that the great majority of the men who desert or seek their discharge through the application of their friends is limited to that class who have less than three years' service. In order to eliminate from the Army, without injury to the Government, men either inapt for military service or rendered restless and discontented by the demands and restraints of a soldier's life, of which they were ignorant at their entry into the Army, I beg to recommend that—except where long and faithful service constitute a strong element of favorable consideration—discharges be made purchasable by the payment of a sum sufficient to reimburse to the Government the expense of recruiting and transportation.

GOVERNMENT HOSPITAL FOR THE INSANE.

The following is a list of persons committed to the Government Hospital for the Insane, under the orders of the honorable the Secretary of War, from October 1, 1886, to October 1, 1887:

Officers of the U. S. Army	5
Enlisted men of the U. S. Army	34
Late soldiers of the U. S. Army	2
Military prisoners	7
Total	48

THE MILITARY PRISON.

The administration of the affairs of the Military Prison at Fort Leavenworth, Kans., has been satisfactorily conducted during the past year, and the prison has probably reached the limit of its growth while the Army remains at its present standard. The accommodations are believed to be ~~generally~~ ^{for the number of prisoners which it may be necessary to receive.} No restriction has been made during the

year upon the transfer of prisoners from all parts of the Army, except from the Division of the Pacific, where provision is made at Alcatraz Island, California, for the prisoners of the division, and where they are usefully employed.

The number of prisoners at the prison June 30, 1886, was 577; the number received during the year, 290; discharged on expiration of term of confinement for disability, etc., 371; leaving 496 in the prison on June 30, 1887. But one death occurred, and the general health of the prisoners has been, as in previous years, remarkably good.

The improvements made during the year past are: One brick building, three stories high, 40 by 200 feet, with a wing 12 by 40 feet. The frames for this building were all made in the prison shops, and a great deal of the work of construction was also done by prison labor. The lower floor will be used for a kitchen and mess-room, and the latter will accommodate 570 men at one time. The other two floors will be used as dormitories, and will relieve the overcrowded apartments heretofore insufficient for their purpose. Two hundred feet of prison wall was constructed during the year, and the entire wall is now completed.

In the prison shops the work of manufacturing boots, shoes, and other articles for the Army has been prosecuted without intermission. In the shoe-shop the finished work is represented by 11,730 pairs of boots and 65,421 pairs of shoes, while tap-soles were placed upon 1,267 pairs of boots and 6,555 pairs of shoes. The articles manufactured in the other shops need not be enumerated, as they consist of so many and various kinds. In the harness-shop the work performed aggregated 3,007 days' labor, making a credit of \$1,503.50; in the tin-shop, 7,321 days, making a credit of \$1,608.50; in the broom-shop, 2,460 days' labor, making 23,042 brooms and 100 whisks, and a credit of \$1,230; in the carpenter-shop, 4,092 days, making a credit of \$2,046; in the blacksmith-shop, 679½ days' labor, making a credit of \$339.75; in the tailor-shop, besides the manufacture of all the clothing for the prisoners, a small sum was earned for the prison. The total number of days, skilled and unskilled labor, for the Quartermaster's Department was 64,961½ of the former and 13,548 of the latter.

The account of the prison with the Quartermaster's Department showed \$119,231.25 due to the prison June 30, 1886; \$37,226.55 earned during the year; \$3,160 worth of supplies received; and a balance of \$153,297.71 due the prison June 30, 1887. It is expected that some arrangement will be made looking to a change in the method of keeping the accounts of the earnings of the prison, so that there will be an actual payment for labor performed, but it cannot probably be done until appropriations, made under estimates with that end in view, shall become available. The appropriation for support of the Military Prison for the last fiscal year was \$89,917.76, of which \$76,355.25 were expended.

A considerable fund has accumulated from the sales of various products from the farm, savings from rations, etc., which is used in purchasing sundry articles not supplied from the regular appropriations, but necessary for the comfort and health of the prisoners. A large yield of field products was procured by prison labor on the farm, and materially helped to reduce the expenditure from the appropriation for the maintenance of the prisoners.

The inspections of the prison required by law have been regularly made, and it gives me sincere pleasure to add that the commandant of the prison maintains the high character earned by him during the previous years of his administration for superior ability and singular efficiency in managing the varied interests confided to his charge.

WORKING OF THE OFFICE.

The strength and composition of the clerical and other force of this office remains the same as at the date of my last report.

The following table exhibits the labors of the enlisted volunteer pension branch and other divisions of the office engaged directly in business relating to claims for pension, bounty, homestead grants, etc.:

Statement of calls from the Commissioner of Pensions, Second Auditor, etc., for full or partial histories of officers and men of the late volunteer forces, in connection with claims for pension, bounty, back pay, subsistence, land claims, lost horses, etc.

	On hand October 1, 1886.	Received during the year.	Total.	Finished during the year.	On hand October 1, 1887.
<i>Commissioner of Pensions.</i>					
Enlisted volunteer pension branch.....	43,907	116,461	160,368	141,954	18,414
Colored troops division.....	3,064	7,781	10,845	6,775	4,070
Volunteer service branch (officers' claims)	990	8,450	9,440	8,878	602
Total	47,961	132,692	180,653	157,567	23,086
<i>Second Auditor.</i>					
Enlisted volunteer pension branch.....	4,838	25,019	29,852	25,096	4,756
Colored troops division.....	842	3,627	3,969	3,320	649
Volunteer service branch.....	1,525	3,804	5,329	3,757	1,572
Total	6,700	32,450	39,150	32,173	6,977
<i>Third Auditor.</i>					
Volunteer service branch	58	580	588	543	46
<i>General Land Office.</i>					
Enlisted volunteer pension branch	703	1,438	2,141	1,213	928
Colored troops division.....		24	24	24	
Total	703	1,462	2,165	1,237	928
<i>Subsistence Department.</i>					
Enlisted volunteer pension branch	524	1,898	1,922	1,407	515
Colored troops division.....		76	76	75	1
Total	524	1,474	1,998	1,482	516
<i>Pay Department.</i>					
Colored troops division.....		407	407	407	

RECAPITULATION.

Number of calls from all sources:		
On hand October 1, 1886	55,946	
Received during the year.....	169,015	224,961
Finished during the year.....		193,408
Remaining on hand October 1, 1887.....		31,553

The above statement exhibits gratifying results. The number of calls from the Pension Office reported on hand at the date of my last report was 47,961. The largely increased number of calls received monthly last fall having swelled the number of calls unanswered to 50,439 on December 1, 1886, I determined that extraordinary measures were necessary, and, therefore, called for volunteers from the enlisted volunteer pension branch to work extra hours each evening to lessen the amount of calls on hand. It gives me much pleasure to state that my anticipa-

tions were not disappointed, nearly two-thirds of the pension force, with additions from other parts of my office, reporting for duty from 6½ to 9½ o'clock p. m. each day. Later, an order was made calling on the entire force of the pension branch for extra work, and this order remained in force until the 15th of March last, when it was revoked; the number of unanswered calls having been reduced by nearly 30,000 cases. The prompt and cheerful response of the clerks, and the energy, zeal, and fidelity exhibited by them on this occasion entitle them to high commendation.

In addition to the regular pension work, satisfactory progress has been made in the labor devolved on this Office by the act of June 3, 1884, providing for the muster of volunteer officers who may have performed the duties of a higher grade, under a commission issued by the State authorities, prior to date of actual muster in that grade by the United States mustering officers. The total number filed under that law is 27,493, of which nearly 10,000 were received within six months from the passage of the law; and persistent efforts have been made to expedite the adjudication of this class of claims, as a simple matter of justice to meritorious applicants. The preparation of reports requires much care and labor, and necessitates examination of the rolls and other records, as well as consideration of the rules and orders of the War Department governing musters, etc., in order to determine whether the facts elicited warrant a muster. The number of cases acted on during the past year is 2,341, an increase of 435 over the number completed during the preceding year, and the rate of work during the three months of the present fiscal year indicates the settlement of about 3,000 cases yearly.

The work under the law of July 5, 1864, providing for the removal of the charge of desertion in certain cases, is also progressing satisfactorily. The number of cases on hand last year was 3,498, and about 11,000 applications have been received since, making a total of 14,498 cases; of which 11,998 were acted on or held in abeyance pending the receipt of additional evidence, leaving about 2,500 cases waiting investigation and report. Of the number of cases disposed of, the charge of desertion was removed in 4,229 cases, and 3,536 applications were rejected; the balance, 6,733, were returned to the applicants for further evidence on certain points developed by the examination of the case, or because it was clearly apparent from the records or from the testimony submitted that the case did not come within the provisions of the law of relief.

In closing this report, it affords me sincere pleasure to bear testimony to the general intelligence, zeal, and efficiency of my clerks.

Respectfully submitted.

R. C. DRUM,
Adjutant-General

Hon. WILLIAM C. ENDICOTT,
Secretary of War.

REPORT OF THE ACTING JUDGE-ADVOCATE-GENERAL.

WAR DEPARTMENT,
JUDGE-ADVOCATE-GENERAL'S OFFICE,

October 20, 1887.

SIR: I have the honor to submit the following report of the business of this office for the year ending September 30, 1887:

Commissioned officers tried by general courts-martial:	
Number of records reported upon and submitted to the Secretary of War for the action of the President	4
Number of records received, revised, and recorded, not requiring the action of the President (convicted 6, acquitted 4)	10
Cadets of the U. S. Military Academy tried by general courts-martial:	
Number of records reported upon and submitted to the Secretary of War.	5
Number of records received, revised, and recorded, not requiring further action (convicted 2).....	5
Enlisted men tried by general courts-martial.....	1,609
Military convicts tried and convicted by general courts-martial.....	7
Total number tried by general courts-martial.....	1,640

I have the honor to invite your attention to the following tabulated statement, presenting, as it does, statistical facts worthy of consideration. It shows the number of trials by general courts-martial for the last eight years:

	Strength of the Army.	Number of trials by general courts-martial.
For twelve months ending September 30—		
1880.....	26,263	1,543
1881.....	24,904	1,702
1882.....	25,700	1,850
1883.....	25,460	1,985
1884.....	26,841	2,280
1885.....	26,859	2,324
1886.....	26,544	1,983
1887.....	26,436	1,640

* On September 30.

† On June 30.

It thus appears that from 1880 until 1885 there was a gradual increase in the number of trials by general courts-martial, and that since then there has been a very marked decrease. Comparing the twelve months ending September 30, 1886, with the preceding twelve months, there was a decrease of 345; and this year there is a further decrease of 343. Or, comparing the number of trials by general courts-martial had this year with the number had two years ago, there has been a decrease of 688—nearly 30 per cent. There have been fewer trials by general courts-martial this year than for any year since 1880.

Number of records of courts of inquiry received, etc	2
Number of reports and opinions rendered upon proceedings of courts-martial, miscellaneous questions of law, applications for clemency, and other official matters.....	1,461
Number of official applications from the War and Treasury Departments, and Pension Office, for abstracts of proceedings of trials, answered.....	1,291
Number of copies of records of proceedings of general courts-martial furnished.....	210
Of these, 100 copies, containing 9,503 pages, were furnished to parties tried, and 14 copies, containing 1,343 pages, were furnished to the Pension Office and other executive offices and Departments; total number of pages.....	11,145

The following schedule exhibits the number of convictions in the Army of the offenses indicated, as shown by the records of general courts-martial received at this office during the past year:

For absence without leave.....	339
For allowing prisoner to escape.....	12
For assault and battery.....	123
For assault with intent to kill.....	8
For breach of arrest.....	25
For desertion.....	318
For disobedience of orders.....	109
For disrespect to superior officer.....	57
For drunkenness.....	177
For drunkenness on duty.....	165
For embezzlement, etc.....	8
For failure to attend drill, roll-call, etc.....	191
For larceny.....	94
For mutiny and mutinous conduct.....	1
For neglect of duty.....	77
For presenting fraudulent claim.....	3
For offering violence to superior officer.....	8
For quitting guard or post as sentinel.....	99
For quitting platoon or division.....	3
For selling, losing, or wasting government property.....	129
For sleeping on post.....	64
For conduct unbecoming an officer and a gentleman (not included under previous heads).....	4
For disorders, etc., charged as "Conduct to the prejudice of good order and military discipline" (not included under previous heads).....	720
For miscellaneous offenses (not included under any previous head).....	39

The number of records of garrison and regimental courts-martial, which have been received and filed in the departments in which the courts were held, is as follows:

Department of Arizona.....	1,135
Department of California.....	510
Department of the Columbia.....	951
Department of Dakota.....	1,805
Department of the East.....	1,226
Department of the Missouri.....	1,143
Department of the Platte.....	1,420
Department of Texas.....	920
Courts-martial convened by commanders of corps under the 81st Article of War.....	386

Total..... 9,496

Total number of cases tried by general and inferior courts-martial during the year ending September 30, 1887.....	11,136
Number of cases tried last year.....	12,203

Decrease from last year of cases tried by general courts-martial.....	343
Decrease from last year of cases tried by inferior courts-martial.....	729

Total decrease..... 1,072

Of the whole number of cases tried by inferior courts-martial (9,436) 257 resulted in acquittals; while 6,007 represents the number of different enlisted men tried, many men having been tried more than once during the year.

REVISION OF THE ARTICLES OF WAR.

In the last two annual reports from this office, attention was invited to the necessity of revising the Articles of War, so that obsolete and ~~unpleasant~~ ^{unpleasant} matter might be eliminated, the Articles to be confined to what ~~was~~ ^{will} be a military penal code, a gradation of punishment

adopted, etc. Thoroughly convinced, as I am, of the desirableness of such a revision, I take the liberty, at the risk of being considered importunate, to again invite attention to the subject; and I accordingly repeat what I took occasion to say in my last annual report.

ONE HUNDRED AND THIRD ARTICLE OF WAR.

I have observed, since I have been in charge of this office, that two most prolific subjects of discussion, in the administration of military law—the two with reference to which there seems still to exist the greatest difference of opinion—are the military statute of limitations as applied to desertion, and the obligations of enlisted minors, arrested for or convicted of military offenses, to satisfy the demands of military justice, before a claim for discharge on the ground of minority be entertained.

The statute of limitations is as follows:

ARTICLE OF WAR 103. No person shall be liable to be tried and punished by a general court-martial for any offense which appears to have been committed more than two years before the issuing of the order for such trial, unless, by reason of having absented himself, or of some other manifest impediment, he shall not have been accessible to justice within that period.

Under date of January 20, 1877, the then Secretary of War held as follows:

I decide that the old interpretation of the late 88th, now 103d, of the Rules and Articles of War, under which a deserter might be tried by court-martial without regard to the length of his absence, notwithstanding the limitation clause in the article, shall continue to be in force.

This ruling has been confirmed by the War Department under date of June 14, 1887; it being then announced that, "The decision of January 20, 1877, has, since its promulgation, been the rule for the guidance of officers of the Army, and will so remain until officially set aside."

The civil courts have held that the statute of limitations is a matter to plead in defense, and when so pleaded, a court-martial has plenary jurisdiction in the matter, and therefore that no civil court can interfere to oust the court-martial of such jurisdiction. Nevertheless, the intimate that for a court-martial to refuse to entertain a plea in bar based on the statute of limitations, in the case of desertion, would be a violation of law.

Unless the question should happen to go to the Supreme Court, it can only be settled by legislation. Courts-martial themselves are not uniform in their rulings on the subject; and I am, therefore, strongly of opinion that it would be advisable to have it thus permanently determined.

AMENABILITY OF MINORS.

As to the amenability of minors to military jurisdiction, this office has always held, and it has been the ruling in numerous cases in the civil courts, that the contract of enlistment of a minor, without the written consent of his parents or guardians, is voidable only and not void; that until the contract is lawfully avoided by the minor, he is legally in the military service and amenable to its laws, and that he can not be permitted to assert his rights as a minor by committing an offense punishable by the jurisdiction to which he has voluntarily submitted; but in such case he must abide the sentence of a court-martial before the validity of his enlistment can be contested, or an application by his parents or guardians for his release be entertained.

Of late, some courts have taken the view that the contract of enlistment of a minor without consent of parents or guardians is not voidable, but absolutely void as to the parents, on the ground of the right which they have to the custody and services of the minor. In the case of Baker (23 Fed. Reporter, 30), which was a habeas corpus, issued on the petition of the father of Baker for the production of his son, who was held for trial by the military authorities on a charge of desertion, Baker was discharged, the court saying: "My conclusion is that the enlistment is void as to the father and must be so held on his application." The court did not find it necessary to decide whether the minor could have been discharged on his own application alone.

In my opinion, in view of the importance of the subject to the discipline of the Army, all doubt upon the question should be set at rest by legislation.

ALLOWANCES TO OFFICERS ON COURT-MARTIAL DUTY.

In my annual report of 1884 I asked attention to what seemed to me to be an injustice, viz: that no allowance for expenses was made to officers ordered away from their posts on court-martial duty. These expenses are sometimes quite embarrassing, the officers having in many instances to maintain households at their regular stations, besides supporting themselves at the place where the court-martial sits. If, as is often the case, the place designated for the sitting of the court is a city, and the sittings of the court are prolonged, the members of the court and the judge-advocate are compelled to resort to their personal means to defray the living expenses which a military order has rendered it necessary for them to incur. And this is to a large extent true when the court-martial is convened at a military post.

PURCHASE OF LAW BOOKS FOR DEPARTMENT JUDGE-ADVOCATES.

This office has heretofore invited attention to the requirements of the judge-advocates of departments. These officers hold very important positions, having charge—so far as giving advice is concerned, and often of appearing for the United States in important cases—of the legal business of the military department. This business frequently involves questions of law outside of the ordinary routine of the administration of military law, and it is absolutely necessary for them to have working libraries. At some stations public law libraries are not accessible, and under all circumstances the Department judge-advocate should have his books of reference at hand.

An appropriation for this purpose is, in my opinion, so desirable that I take the liberty of urgently asking the attention of the Secretary of War to the matter. Even so small an appropriation as \$200 for each department would be of material assistance.

I am, very respectfully, your obedient servant,

G. NORMAN LIEBER,
Acting Judge-Advocate-General.

Hon. WILLIAM C. ENDICOTT,
Secretary of War.

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REPORT OF THE QUARTERMASTER-GENERAL.

QUARTERMASTER-GENERAL'S OFFICE,
Washington D. C., October 6, 1887.

SIR: I have the honor to submit the annual report of the operations of the Quartermaster's Department during the fiscal year ending June 30, 1887.

The balance in the Treasury to credit of the Quartermaster's Department at end of June 30, 1886, was by last report (including \$21,589.39, pertaining to Signal Service, disbursed by the Quartermaster's Department)	\$711, 883. 21
Appropriations for the fiscal year for the service of the Quartermaster's Department, etc., were as follows: Acts of May 17, June 28, June 30, July 1, 2, 3, 8, 15, 28, and 29, August 3 and 4, 1886, and January 17, 29, February 17, 23, March 1 and 3, and June 30, 1887 (including appropriation of \$185,263.84 pertaining to Signal Service, disbursed by Quartermaster's Department)	10, 830, 256. 67
Amounts deposited to the credit of appropriations and received from sales to officers	574, 402. 10
Total	12, 116, 541. 98
Remittances to disbursing officers have amounted to	\$9, 083, 258. 40
Requisitions to pay settlements made at the Treasury on claims and accounts	1, 356, 979. 48
Carried to surplus fund (Act June 30, 1874)	175, 561. 17
Transferred to Signal Corps under decision of the Secretary of War June 16, 1887	31, 503. 37
	10, 647, 302. 42

Leaving balance in Treasury undrawn at end of June 30, 1887.. 1, 469, 239. 56

The tables, statements, abstracts, etc., which accompany this report will be found to give the items of appropriations, expenditures, and disbursements in all their details.

* * * * *

TRANSPORTATION.

During the fiscal year transportation was provided by the Quartermaster's Department by rail, water, wagon, and stage for 187,549 persons (including 154,699 persons transported and ferried by Government vessels), 145,010 tons of freight, and 7,608 animals, costing, as reported, \$1,418,092.53, of which \$412,394.26 has been paid for transportation of persons, and \$1,005,698.27 for the transportation of live stock and freight, leaving the sum of \$250,804.52 still due on outstanding accounts not settled at the close of the fiscal year.

These amounts are for actual transportation only; other sums and purchases payable from the Army transportation appropriation have swelled the total expense to \$2,832,908.09, of which \$290,861.68 remained unpaid at the close of the fiscal year.

The expenses of military transportation not paid out of the appropriation "Transportation of the Army" comprises that provided over the bonded Pacific railroads, their leased lines and branches, in value \$477,142.23, which is credited at the Treasury Department on the debts of those railroads as required by law, and that provided over land-grant railroads, to which 50 per cent. of the tariff rates are paid under act of Congress of June 30, 1886 (24 United States Statutes, page 97), making special appropriation of \$85,000 for that purpose.

* * * * *

RAILWAY SERVICE.

Transportation was supplied by rail by the department for 27,014 persons, 7,077 animals, and 62,724 tons of freight, at a cost (1) by payment out of the appropriation "Transportation of the Army," \$1,280.09, of which \$324,154.30 was for transportation of persons, \$24,373.94 was for transportation of live stock and freight, and \$6,751.81 for payment of outstanding accounts at the close of the fiscal year; (2) by credit on account of indebtedness on bonded Pacific railroads \$477,142.23, of which \$180,332.66 was for transportation of persons, and \$296,809.57 for transportation of live stock and freight; (3) by payment to land-grant railroads, out of special appropriation for the purpose, \$85,000.

The total cost to the United States of railroad transportation furnished by the Quartermaster's Department during the fiscal year was \$1,506,422.32.

BONDED PACIFIC RAILROADS.

Accounts aggregating \$41,879.15 for Army transportation over the unsubsidized portion of the Central Pacific Railroad (operated by the Southern Pacific Company) have also been settled by the Treasury during the fiscal year and made payable in cash out of the appropriation for "Army transportation," the payment of which has been suspended by the circular of the honorable the Secretary of the Treasury of June 23, 1887, hereafter referred to.

Settlements of the accounts of the bonded Pacific railroads have continued to be made during the year, the same as set forth in the last annual report of the Quartermaster-General, except in the case of the Sioux City and Pacific Railroad.

Under date of November 12, 1886, the honorable Attorney-General rendered a decision establishing the right of this company, under act of July 2, 1864, to payment of 50 per cent. of amounts earned over the unsubsidized portions of the road in cash, and declaring that this road is not within the scope of the sinking-fund act of May 7, 1878, and settlements during the year have been made in accordance with this decision.

The honorable the Secretary of the Treasury having on June 4, 1886, directed by circular letter that the accounts and claim of the Central Pacific Railroad be adjusted under decision of the Supreme Court of the United States of May 10, 1886 (No. 1291, October term, 1885), settlements have been issued in favor of the Central Pacific Railroad Company, drawing upon the appropriation "Army transportation" of the Quartermaster's Department, fiscal year 1886, for transportation on the unsubsidized portion of the railroad. That appropriation having been exhausted before the settlements were received at this office, no requisitions for the amounts so awarded have been issued. If this method of settlement is to be continued, the sum of \$906,314.42 asked for by the honorable the Secretary of War on estimates prepared in this office and submitted June 7, 1886, will be required as a deficiency in the Army transportation appropriation to execute this decision. (See Ex. Doc. No. 270, Forty-ninth Congress, first session.)

LAND-GRANT RAILROADS.

The sum of \$70,936.98 was paid during the fiscal year for military transportation over land-grant railroads upon accounts adjusted in this office and settled through the accounting officers of the Treasury, being

50 per cent. of the tariff rates for like transportation performed for the public at large, as prescribed by the laws appropriating money for the payment. Of this sum \$28,834.12 was paid from the appropriation of the fiscal year, and \$42,102.86 from similar appropriations of previous fiscal years.

INDEBTED RAILROADS.

The last annual report of the Quartermaster-General showed that four such roads had on June 30, 1886, unadjusted accounts with the United States, representing an aggregate of \$1,306,467.96. Under joint resolution of Congress approved February 27, 1887, the honorable the Secretary of War and the honorable the Attorney-General were authorized to adjust and finally settle the accounts of one of the roads—the Mobile and Ohio—an abatement of 25 per cent. on the appraised value of the property purchased being directed. The matters involved in this account are set forth in a report of the Quartermaster-General to the honorable the Secretary of War, May 3, 1887, and the account as stated showed a balance due the company of \$150,518.12.

This report was adopted by the Secretary of War and the Attorney-General and made the basis of the final settlement authorized by joint resolution of February 27, 1887, and Treasury settlement dated May 31, 1887, was issued in favor of the company for this amount.

The matters involved in the relations of the other three indebted roads remain unadjusted. They were fully explained in report of the Quartermaster-General for year 1885, and legislative action recommended looking to the final adjustment. Nothing has been paid upon the indebtedness of these three roads during the last fiscal year.

WATER TRANSPORTATION.

There were moved by water during the last fiscal year 2,609 persons, 503 animals, and 18,519,837 pounds of material, not including 194,750 persons, 118 animals, and 10,296,762 pounds of freight transported or ferried on the United States vessels controlled or operated by the Quartermaster's Department. The cost of this service, excepting the wages of the crews of United States vessels, was \$182,267.53.

The total cost of repairing, running, and maintaining the vessels owned by this department, including the wages of the crews during the fiscal year as reported, was \$100,271.67.

The steam launch *General Green*, having been pronounced unsafe, was sold at auction June 2, 1887, for \$730. Steam yacht *Lillie Lee*, on the night of October 8, 1886, was totally destroyed by fire, the work of an incendiary. Steam launch *Despatch* was sold at public auction March 3, 1887, for \$1,700. The object attained in dispensing with the launch was the reduction of expenditures under Army transportation at Vancouver Depot. Steam propeller *General McPherson*, having been repeatedly reported as worn out in the service and unsafe, was advertised for sale and sold at public auction March 31, 1887, for \$7,755.

Under the authority of the honorable the Secretary of War, proposals were invited for the construction of a new vessel for San Francisco Harbor, and a bid of \$56,180 from the Union Iron Works Company accepted. This steamer was completed and delivered to the United States November 17, 1886, and named by the Secretary of War the *General McDowell*. The trial trips have been reported as satisfactory, and from the date of completion she has been employed in San Francisco Harbor.

Nineteen vessels of different kinds are reported by officers of this Department to have been employed at various times during the fiscal year, at an expense of \$34,890.67.

WAGON TRANSPORTATION.

The Department transported by wagon carriage 135,747,703 pounds of military supplies during the fiscal year, at a cost of \$310,100.57. The sum of \$35,743.10 was still due on outstanding accounts at the close of the fiscal year. One hundred and fourteen contracts for wagon transportation were filed during the year.

STAGE TRANSPORTATION.

Three thousand two hundred and twenty-seven persons and 7,396 pounds of extra baggage were transported by stage during the fiscal year at a cost of \$30,753.38. Of this sum \$2,788.72 was due on outstanding accounts June 30, 1887.

TELEGRAPHING ON ARMY BUSINESS.

Under the provisions of the act of Congress approved June 30, 1886, the cost of telegrams on official business, received and sent by officers of the Army, is again made payable by the quartermaster Department from the appropriation for incidental expenses. This necessitated the preparation of regulations and general orders to govern this matter, and their promulgation to the Army, directing the methods of preparing and paying accounts for telegraphic service.

Much labor and care have been involved in the large correspondence required to make the matter fully understood by the several telegraph companies and officers of the Army, so that the accounts could be settled in conformity with the rulings of the accounting officers of the Treasury.

The total payment on account of telegraphing for the Army during the fiscal year has been \$4,558.39.

There remains in the Treasury unsettled the accounts for telegraphing for the Army, involving the use of lines constructed and operated along the bonded portions of subsidized railroads, which have been transmitted by this office to the Third Auditor of the Treasury under decision of Second Comptroller of December 26, 1885, and February 5, 1886.

By act of June 30, 1886 (24 Stat., 97), the sum of \$2,800,000 was appropriated for Army transportation for the fiscal year ending June 30, 1887. From a compilation of disbursing officers' accounts and Treasury settlements, exhibiting the amounts expended during the year, and the amounts of outstanding accounts due and payable at the close of the year, it appears that the aggregate cost of this service for the fiscal year was \$2,832,908.09, showing that a deficiency approximating \$33,000 exists to be provided for by Congress to pay legitimate outstanding accounts.

TRANSPORTATION ACCOUNTS AND CLAIMS.

Four thousand and nineteen transportation and telegraph accounts and claims, amounting to \$1,029,355.79, were adjusted during the year. Of these 4,005, amounting to \$1,022,743, were referred to the proper bureau for settlement; 4, amounting to \$129.55, were unfavorably

reported upon and rejection recommended; and 10, amounting to \$6,483.24, were suspended for additional evidence; 34, amounting to \$1,614.46, were at the close of the fiscal year awaiting action or under adjustment.

REGULAR AND MISCELLANEOUS SUPPLIES.

Under the authority of the Secretary of War, harness, mess tables and benches, company field desks, stoves, and ranges, and stove furniture, at a total cost of \$27,952.54, were manufactured at the Fort Leavenworth Military Prison during the fiscal year. Stoves and ranges of standard manufacture and extra parts therefor were purchased at general depots to the extent of \$18,965.53.

ANIMALS.

One thousand four hundred and five cavalry and artillery horses were procured during the fiscal year, costing \$189,195.58, an average of \$134.65 per head.

For the Army trains and special service 61 draft horses were purchased at an average cost of \$210.95 per head, and 625 mules at an average cost of \$156.37 per head.

The sale of 1,011 cavalry and artillery horses, 69 draft horses and 496 mules is reported for the sum of \$73,558.59, all of which was deposited in the Treasury to the credit of miscellaneous receipts, excepting such small sums as were received from sales to officers.

There were 25 cavalry and artillery horses, 11 team horses, and 230 mules lost, stolen, and died during the fiscal year, leaving on hand June 30, 1887, 8,776 cavalry and artillery horses, 435 team horses, 5,400 mules, and 6 oxen.

VETERINARY SUPPLIES.

Under section 322 of the Army Regulations, veterinary supplies were purchased during the fiscal year from the Medical Department to the extent of \$4,219.87.

ILLUMINATING SUPPLIES.

During the fiscal year there were purchased 1,728 lamps (pendent and bracket), 420 street lanterns, 41 street lamps, 2 hand lamps, 4 stage lamps, 1 chandelier, 1,815 lanterns (oil and candle), and the necessary chimneys, wicks, and various extra parts, at a cost of \$11,902.13.

Eleven hundred gallons of gasoline were purchased at a cost of \$379.50, and also 320,000 gallons of mineral oil in 5-gallon cans, at a cost of \$45,507.97, making the aggregate expenditure on account of illuminating supplies \$57,789.62—less than the cost last fiscal year by \$6,103.42.

MISCELLANEOUS CLAIMS AND ACCOUNTS.

One thousand four hundred and eighty-two of these claims and accounts, amounting to \$311,343.83, received final action during the fiscal year, and 10,800 claims and 279 accounts, amounting to \$8,380,960.61, remained on file at the close of the fiscal year.

The examination of these claims, many of them for small sums due for services rendered as teamsters and laborers during the late war, is necessarily a slow and tedious process, requiring the careful examination of the monthly reports of officers, sometimes quite voluminous, bearing many thousand names of persons employed, and often requiring much correspondence in order to verify the statements upon which the claim is based.

A large number of vouchers issued by officers of the Quartermaster's Department for stores purchased and in payment of services rendered, are included among the number reported on hand, the persons in whose favor they were issued being unknown.

Under the provisions of Army Regulations, paragraph 538, reading matter, consisting of newspapers, has been supplied to the libraries of 131 military posts, independent arsenals, receiving depots, etc., at a cost of \$4,632.64.

CLAIMS UNDER ACT JULY 4, 1864.

This branch is in charge of Lieut. Col. B. C. Card, deputy quartermaster-general, U. S. Army.

The work on this class of claims has been vigorously prosecuted during the last fiscal year, and the investigation of the same in the field almost completed, so that it will now require but a short time to close up this branch of the work.

* * * * *

ISSUES TO THE ARMY.

The principal issues from the general depots during the fiscal year were as follows: 9,354 helmets, 6,793 cork helmets, 41,355 forage caps, 1,162 fur caps, 9,536 canvas caps, 24,446 campaign hats, 11,061 overcoats, 978 fur and canvas overcoats, 8,375 uniform dress coats, 43,946 blouses, 29,330 canvas blouses, 9,923 stable frocks, 12,577 overalls, 81,093 kersey trousers, 30,661 canvas trousers, 1,742 linen trousers, 18,983 suspenders, 49,916 flannel shirts, 19,093 boots, all kinds, and 84,693 shoes, all kinds, 88,826 undershirts, 95,442 drawers, 142,158 woolen stockings, 153,903 cotton stockings, 480,267 white Berlin gloves, 8,277 woolen mittens, 10,218 fur gauntlets, 9,587 mittens, canvas, 9,034 gauntlets, leather, 9,018 arctic overshoes, 3,036 barrack shoes, 24,938 woolen blankets, 13,117 gold lace chevrons, 12,286 cloth chevrons, 4,022 barrack bags, 1,835 wire-woven bunk bottoms, 3,185 mattresses, 7,948 mattress covers, 4,154 pillows, 16,973 pillow cases, 25,389 bed sheets, 6,878 mosquito bars, 5,828 axes, 5,496 shovels, 2,095 miscellaneous tents, 7,176 shelter tents, 36,778 corn brooms, 4,683 barrack chairs, and 16,918 scrubbing brushes.

No complaints as to the quality of the clothing and equipage furnished by this Department to the enlisted men of the Army have been received at this office. These supplies it is desired to have as near perfect as human thought and foresight can make them.

The foot-gear for the enlisted men of the Army, however, has not reached that state of perfection so desirable. So far as the material purchased, therefore, is concerned, it is the best that can be procured, but the manner of fastening the soles to the uppers, so as to adapt them to the use of the military service, is the main difficulty to be solved. The subject, however, is under consideration and study.

* * * * *

In conclusion, it is due to the officers associated with the Quartermaster-General in this office, and to those elsewhere doing duty in the Department, that careful testimony should be borne to their continued devotion to the public interest, their integrity, and their zealous and faithful service, which, as heretofore, continue to be marked characteristics of the officers of the Department.

The clerks and employes attached to this office have given even greater evidence than in the past of their capacity and efficiency. The

amount of work dispatched, with its quality, is the best evidence of good organization and faithfulness to duty. To all of them are due these cheerful acknowledgments.

S. B. HOLABIRD,

Quartermaster-General, U. S. Army.

Hon. WILLIAM C. ENDICOTT,

Secretary of War.

REPORT OF THE COMMISSARY-GENERAL OF SUBSISTENCE.

WAR DEPARTMENT,
OFFICE COMMISSARY-GENERAL OF SUBSISTENCE,
Washington, D. C., September 23, 1887.

SIR: I have the honor to submit the following report of the operations of the Subsistence Department for the fiscal year ending June 30, 1887.

RESOURCES AND EXPENDITURES.

The following statement exhibits the aggregate fiscal resources and expenditures of the Department for the year mentioned, and the balances at the close of the fiscal year.

RESOURCES.

Amounts in the Treasury to the credit of appropriations of the Subsistence Department on June 30, 1886, as follows:

Subsistence of the Army, 1885.....	\$37, 454. 89	
Signal Service subsistence, 1885.....	7, 343. 20	
Subsistence of the Army, 1886.....	142, 342. 24	
Signal Service subsistence, 1886.....	12, 344. 38	
		\$199, 484. 71

Amounts to the credit of officers of the Subsistence Department, and of officers doing duty in the Subsistence Department, with the Treasurer, assistant treasurers, and designated depositaries, and in their personal possession on June 30, 1886, as follows:

Subsistence of the Army, 1885.....	\$5, 038. 47	
Subsistence of the Army, 1886.....	348, 812. 84	
Signal Service subsistence, 1886.....	12, 473. 05	
		366, 324. 36

Amounts refunded to the Treasury near the close of fiscal year, but not carried to the credit of the appropriations by June 30, 1886, since covered in, as follows:

Subsistence of the Army, 1884 and prior years.....	\$1, 000. 90	
Subsistence of the Army, 1885.....	36. 73	
Subsistence of the Army, 1886.....	33, 744. 80	
		34, 782. 43

Amounts appropriated for the Subsistence Department for the fiscal year ending June 30, 1887, as follows:

Subsistence of the Army, 1887, act of June, 30, 1886.....	\$1, 745, 000. 00	
Subsistence of the Army, 1883 and prior years, act August 4, 1886.....	5, 320. 27	
Signal service subsistence, 1887, joint resolution, July 1, 1886.....	531. 88	
Signal Service subsistence, 1887, act of August 4, 1886.....	148, 737. 50	
Claims for quartermaster's stores and commissary supplies, act July 4, 1864, per act March 3, 1887, being portion for commissary supplies.....	371. 78	
Commutation of rations to prisoners of war in rebel States, and to soldiers on furlough, prior to July 1, 1863, act August 4, 1866.....	21, 146. 45	

amounts appropriated for the Subsistence Department for the fiscal year ending June 30, 1887.—Continued.

Commutation of rations to prisoners of war in rebel States prior to July 1, 1863, appropriation warrant No. 32	\$36.05	
Twenty per centum additional compensation prior to July 1, 1863, act August 4, 1886	251.60	
Relief of Richard H. Porter, act February 19, 1887	9,350.00	
Relief of William Ervin, act February 21, 1887	7,650.00	
		\$1,938,395.73

amounts collected from various sources and refunded to the appropriations of the Subsistence Department on the books of the Treasury during the fiscal year 1887, as follows:

Subsistence of the Army, 1884 and prior years	\$3,916.26	
Subsistence of the Army, 1884 and prior years, transfer account	4,325.26	
Subsistence of the Army, 1885	2,730.64	
Subsistence of the Army, 1886	11,768.76	
Subsistence of the Army, 1887	6,071.75	
		28,812.67

amounts collected from various sources during the fiscal year 1887, in process of cover into the appropriations of the Subsistence Department on June 30, 1887, as follows:

Subsistence of the Army, 1885	\$141.87	
Subsistence of the Army, 1886	53.48	
		200.35

amounts collected from various sources during the fiscal year 1884, in process of cover into the appropriations of the Subsistence Department on June 30, 1887, as follows:

Subsistence of the Army, 1887		5.55
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amounts received by officers of the Subsistence Department and by officers doing duty in the Subsistence Department from sales of subsistence stores to the following purchasers during the fiscal year 1887, and taken up for immediate disbursement under the following appropriations:

Subsistence of the Army, 1886:		
Sales to officers and enlisted men not previously reported	\$443.47	
Subsistence of the Army 1887:		
Sales to officers, \$360,101.48; to enlisted men and to companies, detachments, and hospitals, \$420,918.94; to civil employes, \$13,172.18; to Fort Leavenworth Military Prison, \$21,138.82; to U. S. Geological Survey, \$562.78; to Quartermaster's Department, \$232.73; to Headquarters of the Army, \$6.25; to Indian agents, \$784.74; to Ordnance Department, \$7.70; to Smithsonian Institution, \$81.14; of surplus and condemned stores and property at auction, \$1,738.29; of boxes, barrels, etc., \$274.37; of garden seeds and agricultural implements, \$97.65, total	819,117.07	819,560.54

amounts taken up by officers doing duty in the Subsistence Department on account of reclamations for stores lost, damaged, etc., and in correction of errors in their accounts, etc., during the fiscal year 1887:

Subsistence of the Army, 1886	\$597.21	
Subsistence of the Army, 1887	564.43	
		1,161.64

amounts in hands of representatives of deceased officers to be collected:

Subsistence of the Army, 1878	\$109.84	
Subsistence of the Army, 1882	248.63	
Subsistence of the Army, 1883	70.95	
		429.42

amounts transferred on books of the Treasury in settlement of deceased officers' accountability during the fiscal year 1887:

Subsistence of the Army, 1884 and prior years, transfer account...		47.04
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amount charged against deceased, resigned, and dismissed officers, on account of funds alleged to have been lost by theft, etc., as follows:

Subsistence of the Army, 1879 and prior years		3,000.89
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Amounts charged against officers still in service on account of funds alleged to have been lost by theft, etc., and for which relief can only be obtained in the Court of Claims, under sections 1059 and 1062, Revised Statutes, as follows:

Subsistence of the Army, 1879 and prior years	\$549. 71	
Subsistence of the Army, 1880	393. 96	
Subsistence of the Army, 1881 and prior years	2, 783. 00	
Subsistence of the Army, 1882	39. 18	
Subsistence of the Army, 1883	109. 16	
		\$3,
Total resources	3, 396. 1	

EXPENDITURES.

Amounts expended on the books of the Treasury from the appropriations of the Subsistence Department, during the fiscal year 1887, as follows:

Claims for quartermaster's stores and commissary supplies, act July 4, 1864, per act March 7, 1837	\$371. 78	
Commutation of rations to prisoners of war in rebel States, and to soldiers on furlough, prior to July 1, 1883, act August 4, 1886	21, 164. 25	
Subsistence of the Army, 1883 and prior years	5, 320. 27	
Subsistence of the Army, 1884 and prior years, transfer account	29. 38	
Subsistence of the Army, 1885	496. 25	
Subsistence of the Army, 1886	3, 760. 08	
Signal Service subsistence, 1886	730. 49	
Subsistence of the Army, 1887	14. 00	
Twenty per centum additional compensation prior to July 1, 1883	251. 80	
Relief of Richard H. Porter, act February 19, 1887	9, 350. 00	
Relief of William Ervin, act February 24, 1887	7, 650. 00	
		49,1

Amounts disbursed by officers of the Subsistence Department, and officers doing duty in the Subsistence Department, during the fiscal year, 1887, as follows:

Subsistence of the Army, 1885	\$21. 96	
Subsistence of the Army, 1886	181, 701. 90	
Signal Service subsistence, 1886	7, 193. 40	
Subsistence of the Army, 1887	2, 193, 395. 08	
Signal Service subsistence, 1887	138, 315. 40	
		2, 520,

Amounts dropped by officers doing duty in the Subsistence Department in correction of errors in their accounts during the fiscal year 1886:

Subsistence of the Army, 1886	\$1. 00	
Subsistence of the Army, 1887	80. 28	

Amounts transferred on books of Treasury, act March 3, 1875 (18 Stat. L., 418):

Subsistence of the Army, 1884 and prior years, transfer account ...		4,
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Amounts carried to the surplus fund on June 30, 1887:

Subsistence of the Army, 1884 and prior years	\$4, 917. 16	
Subsistence of the Army, 1885	44, 742. 52	
Signal Service subsistence, 1885	7, 343. 20	
		57,

Total expenditures

2, 631,

BALANCES.

Amounts in the Treasury to the credit of appropriations of the Subsistence Department on June 30, 1887, as follows:

Subsistence of the Army, 1886	\$352, 246. 34	
Signal Service subsistence, 1886	16, 893. 54	
Subsistence of the Army, 1887	18, 712. 75	
Signal Service subsistence, 1887	269. 38	
Commutation of rations to prisoners of war in rebel States and soldiers on furlough prior to July 1, 1883, act August 4, 1886	18. 25	
		388,

REPORT OF THE SECRETARY OF WAR.

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Amounts to the credit of officers of the Subsistence Department, and of officers doing duty in the Subsistence Department, with the Treasurer, assistant treasurers, and designated depositaries, and in their personal possession, on June 30, 1887, as follows:

Subsistence of the Army, 1877 \$354,339.99
Signal Service subsistence, 1887 10,684.60

\$365,024.59

Amounts refunded to the Treasury near close of fiscal year 1887, but not carried to the credit of the appropriations by June 30, 1887, as follows:

Subsistence of the Army, 1885 \$141.87
Subsistence of the Army, 1886 58.48
Subsistence of the Army, 1887 4,216.70

4,417.05

Amounts in hands of representatives of deceased officers to be collected:

Subsistence of the Army, 1878 \$109.84
Subsistence of the Army, 1882 248.63
Subsistence of the Army, 1883 70.95

429.42

Amounts charged against officers (deceased and resigned) on account of funds alleged to have been lost by theft, etc., as follows:

Subsistence of the Army, 1879 and prior years.....

3,000.89

Amounts charged against officers still in service on account of funds alleged to have been lost by theft, etc., and for which relief can only be obtained in the Court of Claims, under sections 1059 and 1062, Revised Statutes, as follows:

Subsistence of the Army, 1879 and prior years..... \$549.71
Subsistence of the Army, 1880 393.96
Subsistence of the Army, 1881 2,783.00
Subsistence of the Army, 1882 39.18
Subsistence of the Army, 1883 109.16

3,875.01

Total balances..... 764,887.22

Statement of the average contract prices per pound (independent of quantities purchased) in each State and Territory for the fresh beef supply of the Army in the fiscal years 1887 and 1888.

State or Territory.	Average price per pound.		State or Territory.	Average price per pound.	
	1887.	1888.		1887.	1888.
Maine.....	9.75	8.50	Georgia.....	7.40	9.00
Massachusetts.....	9.63	8.61	Alabama.....	.....	7.68
Rhode Island.....	11.75	10.00	Louisiana.....	8.90	8.63
Connecticut.....	9.00	8.00	Arkansas.....	8.00	5.99
New York.....	9.86	9.26	Texas.....	6.71	6.16
Pennsylvania.....	10.72	11.50	Kentucky.....	7.00	11.00
Maryland.....	6.75	7.00	Ohio.....	5.45	5.85
District of Columbia.....	7.42	10.07	Indiana.....	8.00	7.45
Virginia.....	5.16	5.24	Colorado.....	9.11	8.06
Illinois.....	7.75	6.95	Utah.....	6.34	7.20
Michigan.....	12.37	9.25	Montana.....	8.49	8.32
Missouri.....	6.48	6.14	California.....	8.77	6.71
Minnesota.....	5.44	5.51	Arizona.....	9.07	8.02
Nebraska.....	7.31	6.99	Washington.....	7.33	7.27
Kansas.....	7.14	5.95	Idaho.....	7.00	8.25
Indian Territory.....	8.15	6.62	Nevada.....	15.00	15.00
Wyoming.....	8.86	9.11	Oregon.....	7.50	8.25
Dakota.....	8.72	7.85	Florida.....	13.87	13.87
New Mexico.....	7.34	6.22			
			Average price.....	8.88	8.16

During the fiscal year ended June 30, 1887, 294 newspaper advertisements and 354 circulars and posters inviting proposals for subsistence supplies were reported to this office. There were also reported 2,889 contracts of various kinds for fresh meats, complete rations, and other as required for the subsistence of the Army.

ISSUES TO INDIANS.

Subsistence supplies were issued to Indians during the fiscal year ended June 30, 1887, to the following amounts in value:

To destitute Indians near Fort Bidwell, Cal.....	\$491.05
To destitute Piute Indians at Fort McDermit, Nev.....	1,857.38
To destitute Hualpai Indians at Hackberry, Ariz.....	4,997.99
To destitute Cree Indians on or near South Fork of Sun River, near Fort Shaw, Mont.....	380.46
To destitute Cree Indians at Fort Assiniboine, Mont.....	2.58
To Chiricahua Indian prisoners of war, in the field, and at Fort Apache, Ariz.; at San Antonio, Tex.; Saint Augustine, Fort Barrancas, and Fort Pickens, Fla., and Mount Vernon Barracks, Ala.....	18,948.47
To Chiricahua Warm Spring Indian prisoners of war, at San Carlos, Ariz.....	208.59
To White Mountain Indian prisoners of war, at Fort Apache, Ariz.....	266.57
To Indian prisoners of various tribes, and at different posts.....	194.17
To Indians visiting posts under Army Regulations 21e2 and 21e3.....	391.35
Total.....	27,738.61

The sum of \$7,726.88 of the above amount has been transferred by the Interior Department to the credit of the appropriations for Army subsistence.

MISCELLANEOUS ISSUES AND EXPENDITURES.

Issues were made during the fiscal year ended June 30, 1887, under orders from commanding officers, as follows:

	Rations.
To citizen prisoners.....	152
To destitute citizens.....	1,117

The disbursements for liquid coffee for enlisted men traveling by cars, stages, etc., amount to \$8,013.44, an increase over previous year of \$2,508.58.

For extra-duty pay of enlisted men detailed for duty in the subsistence department at posts there was expended the sum of \$20,338.42, being a decrease from previous year of \$802.37.

There was disbursed for advertising during the year the sum of \$11,893.82, an increase of \$820.80 over the previous year.

LOSSES OF STORES AND PROPERTY.

The value of stores reported lost in the fiscal year 1887 by accident, wastage in transportation, and while in store, etc., for which no one has been held accountable, except in the item of \$138.47 per statement below, was \$6,940.68.

Included in the foregoing sum of \$6,940.68 are the following special items of loss:

Where reported.	Cause of loss, per report.	When reported.	Value.
Fort McKinney, Wyo.....	By theft.....	July, 1886..	\$5.80
Fort Bowie, Ariz.....	By heavy fall of rain.....	do.....	43.09
Fort Assiniboine, Mont.....	By high water.....	Sept., 1883..	7.62
Camp Dattil Creek, Ariz.....	By fire.....	do.....	27.47
Fort Thomas, Ariz.....	By pack mule running into Gila River.....	Nov., 1886..	2.76
Fort Bowie, Ariz.....	By fire.....	Dec., 1886..	2.95
Camp Del Rio, Tex.....	do.....	Jan., 1887..	12.71
Fort McDowell, Ariz.....	By theft.....	May, 1887..	138.47
Fort Buford, Dak.....	By wrecking of train.....	June, 1887..	2.33
Total.....			257.79

Stores lost during fiscal year in transportation and responsibility fixed amount to..... \$642.89
Of this amount there has been collected..... 50.19

Balance to be collected..... 592.70

STORES INSPECTED AND CONDEMNED.

Value (original cost) of subsistence stores inspected and condemned during the fiscal year 1887 \$14,569.90
 and such as were ordered sold there was realized the sum of..... 1,559.95

Net loss on account of stores condemned..... 13,009.95

From sales of condemned subsistence property there was realized the sum of \$128.53.

BOOKED RATIONS FOR RECRUITING PARTIES AND RECRUITS AT RENDEZVOUS.

There was disbursed in the fiscal year the sum of \$41,661.75 for the subsistence of recruiting parties and recruits at rendezvous; the amount being \$8,034.64 in excess of that expended in previous year for the same purpose.

COMMISSARY SERGEANTS.

Number of commissary sergeants in service at the commencement of the last fiscal year 118
 During the year the following casualties occurred :
 Discharged 6
 Deserted 1
 Retired 3
 ----- 10
 Appointed during the year 9
 ----- 108
 Total in service June 30, 1887..... 117

CLERICAL WORK OF THE OFFICE OF THE COMMISSARY-GENERAL OF SUBSISTENCE.

MISCELLANEOUS DIVISION.

There were received and recorded in the miscellaneous division of this office during the year 2,807 communications, and there were written and sent out during the same time 2,344 letters and 1,198 indorsements.

ACCOUNTS AND RETURNS DIVISION.

Accounts and returns on hand June 30, 1886, received, examined, etc., during fiscal year ended June 30, 1887.

On hand June 30, 1886, accounts current..... 518
 Received during the year..... 2,415
 ----- 2,933
 On hand June 30, 1886, returns of subsistence stores 469
 Received during the year..... 1,918
 ----- 2,387
 On hand June 30, 1886, returns of subsistence property 148
 Received during the year 829
 ----- 977
 Examined during year ended June 30, 1887 :
 Accounts current (accompanied by 38,568 vouchers)..... 2,589
 Returns of subsistence stores (accompanied by 33,134 vouchers) 2,085
 Returns of subsistence property (accompanied by 1,954 vouchers) 959
 On hand June 30, 1887, awaiting examination :
 Accounts current..... 344
 Returns of subsistence stores..... 302
 Returns of subsistence property..... 18

The accounts and returns received during the year were rendered by 461 officers.

In connection with the examination of these accounts and returns 3,565 letters were written, 1,405 referred, and 115 papers copied.

Examinations and reports on 3,812 applications for certificates of non-indebtedness were made, and certificates issued, or the indebtedness, if any, reported by letter to the Second Auditor, United States Treasury.

CONTRACT DIVISION.

During the fiscal year 2,700 communications were received and recorded in the contract division, and 1,888 letters and indorsements sent out.

CLAIMS DIVISION.

Act of July 4, 1864 (sec. 300, B, R. S.).

There were, at the commencement of the fiscal year ending June 30, 1887, on file in this office, awaiting examination under the third section of the act of July 4, 1864, and the acts and joint resolutions supplementary to said act, 3 claims; during the year, 14 more were received from the Third Auditor of the Treasury, and, in addition, 3 old claims, in which no formal decisions had been rendered, were taken up.

Formal decisions were rendered during this period in 13 claims, of which 6, amounting to \$849.50, were allowed in the sum of \$285.20, and recommended to the Third Auditor of the Treasury for payment; and 7, amounting to \$3,136.50, were disallowed.

There remained on hand July 1, 1887, awaiting examination and decision, 7 claims of this class.

Joint resolution of July 25, 1866, and third section of act of March 2, 1867.

At the beginning of the fiscal year there were on file in this office 1,251 unexamined claims for commutation of rations of Union soldiers while held as prisoners of war, and during the year 1,281 more were received, making a total of 2,532 claims of this class for examination. Of these, 1,355 were examined and transmitted to the Third Auditor of the Treasury, 730 being recommended for disallowance and 625, amounting to \$15,323.36, for payment. In addition 177 old claims were re-examined and transmitted to the Third Auditor of the Treasury, of which 127 were recommended for disallowance and 50, amounting to \$1,139, for payment.

Miscellaneous claims.—There were at the commencement of the fiscal year 467 unexamined miscellaneous claims on hand, and during the year 405 more were received, making a total of 872 claims of this class for examination. Of these, 355 were examined and transmitted to the Third Auditor of the Treasury, 222 being recommended for disallowance and 133, amounting to \$1,935.75, for payment. In addition, 31 old claims were re-examined and transmitted to the Third Auditor of the Treasury, of which 19 were recommended for disallowance and 12, amounting to \$208.84, for payment.

Letters and indorsements.—In connection with these three classes of as mentioned 13,288 communications were sent out during the year.

AND STATIONS OF OFFICERS OF THE SUBSISTENCE DEPARTMENT.

and stations of officers of the Subsistence Department on June, 1887, will appear from the roster hereto appended. ear the officers of the department have been actively ve performed their duties with their accustomed zeal, say.

fully, your obedient servant,

R. MACFEELY,
Commissary-General of Subsistence.

WAR.

REPORT OF THE SURGEON-GENERAL.

SURGEON-GENERAL'S OFFICE,
Washington, D. C., October 10, 1887.

SIR: I have the honor to submit herewith a statement of expenditures made during the fiscal year ended June 30, 1887, from the appropriation made by act of Congress approved May 28, 1886, for the expenses of the Medical Department of the Army, and the balance on hand at the close of said fiscal year, viz:

Medical and Hospital Department, 1887.

Appropriated by act approved May 28, 1886.....	\$200,000.00	
Refunded during the year:		
By Army and Navy Hospital, Hot Springs, Ark., for supplies furnished	\$4,163.13	
By U. S. Military Prison, Fort Leavenworth, Kans., for supplies furnished	303.34	
By Army Medical Museum, for supplies furnished	418.75	
By Quartermaster's Department, for veterinary medicines furnished	3,667.78	
On account of supplies lost	4.00	
		8,557.00
Total to be accounted for		208,557.00
Disbursed to June 30, 1887:		
For medical and hospital supplies	58,949.35	
For expenses of purveying depots	4,236.32	
For pay of employes, viz:		
Medical purveying depot, New York, N. Y. \$12,049.82		
Medical purveying depot, Saint Louis, Mo	12,639.96	
Medical purveying depot, San Francisco ..	6,317.46	
Office medical director Division of the Atlantic	1,800.00	
U. S. Army Dispensary, Washington, D. C.	3,000.00	
		35,807.24
For advertising	393.50	
For medical attendance, medicines, nursing, etc.....	4,282.93	
For miscellaneous expenses	761.96	
		104,431.30
Balance to be accounted for July 1, 1887		104,125.70
As follows:		
Balance in U. S. Treasury	55,831.28	
In hands of disbursing officers	48,294.42	
		104,125.70

Nearly all the balance remaining on hand at the close of the fiscal year has already been, or will be, expended in the payment for supplies contracted for and other obligations incurred prior to July 1, 1887.

The money value of the medical and hospital supplies actually issued during the fiscal year ended June 30, 1887, was \$159,366.95, and the cost of the supplies required for issue during the current fiscal year will undoubtedly exceed that amount. I base the estimate of the probable cost of the medical and hospital supplies which will be required for issue during the present fiscal year on the fact that the average money value of medical supplies issued annually during the fiscal years July 1, 1876, to June 30, 1887, was approximately \$177,515.78, exclusive of all other expenses.

In this connection I respectfully invite your attention to my estimate of appropriations required by the Medical Department of the Army for

the service of the fiscal year ending June 30, 1889, submitted to you on the 15th ultimo, as follows:

For the purchase of medical and hospital supplies, including disinfectants for general post sanitation, expenses of purveying depots, pay of employes, medical care and treatment of officers and enlisted men of the Army on duty at posts and stations, for which no other provision is made; for the proper care and treatment of cases in the Army suffering from contagious or epidemic diseases; advertising, and other miscellaneous expenses of the Medical Department (the amount to be expended for pay of employes not to exceed \$38,000), \$220,000.

For medical and hospital supplies for the Army and Navy Hospital at Hot Springs, Ark., \$4,000.

The estimated amounts will, it is believed, be necessary to meet the wants of the Medical Department for the purposes stated for the ensuing fiscal year. It becomes necessary from time to time to add to the standard supply table new remedies, new instruments, and new standard medical books, and provide them for use by medical officers of the Army in the proper diagnosis and treatment of disease.

The limited number of contract surgeons allowed by law necessitates the employment of private physicians, under existing regulations, to furnish medical attendance to officers and enlisted men at stations where there is no medical officer of the Army. These physicians are paid by the visit from the "medical and hospital appropriation." Added to this is the necessary expenditure for the employment of skilled nurses for the proper care and treatment of cases of epidemic and contagious diseases.

I respectfully recommend, as specified in estimate submitted, that the limit of amount of the appropriation to be expended for the pay of employes of the Medical Department be increased to at least \$38,000.

I have the honor to renew my recommendation made in my last annual report that, in order to facilitate the purchase and delivery of medical and hospital supplies, and for the best interests of the service with a view to economy, Congress be requested to grant authority in the purchase of medical and hospital supplies which cost less than \$500 to make such purchases, after due advertisement for bids, without entering into a formal written contract. In many instances a strict compliance with the letter of the law and existing regulations in preparing the formal executory contracts, five copies of which are required, entails an expense to the Government in clerical time and labor fully equal to the cost of the article for which the contract is made. It is not believed that such was the intention of the framers of the law relating to purchases of Government supplies.

Medical and Hospital Department, 1886.

Balance on hand July 1, 1886.....	\$127, 176. 35
Refunded during the year	458. 82
Total to be accounted for	127, 635. 17
Disbursed during the year:	
For medical and hospital supplies	\$79, 670. 96
For expenses of purveying depots	1, 356. 48
For pay of employes	316. 66
For medical attendance, medicines, etc	2, 230. 65
For miscellaneous expenses.....	115. 79
	83, 690. 54
Balance to be accounted for July 1, 1887.....	43, 944. 63
As follows:	
Balance in U. S. Treasury	24, 415. 82
In hands of disbursing officers.....	19, 528. 81
	43, 944. 63

Medical and Hospital Department, 1885.

Balance on hand July 1, 1886.....		\$13,275.07
Disbursed during the year.....	\$135.15	
Transferred to surplus fund	13,139.92	
		<u>13,275.07</u>

Medical and Hospital Department, 1883 and prior years (reappropriated).

Reappropriated by act approved August 4, 1886	\$486.62	
Disbursed during the year.....	486.62	
		<u>486.62</u>

Medical and Hospital Department, 1882.

Balance on hand July 1, 1886.....	\$452.00	
Balance to be accounted for July 1, 1887.....	452.00	
		<u>452.00</u>

Signal Service, Medical Department, 1887.

Reappropriated by act approved August 4, 1886	\$2,000.00	
Disbursed during the year.....	1,655.53	
		<u>1,655.53</u>

Balance to be accounted for July 1, 1887	344.47	
		<u>344.47</u>

Signal Service, Medical Department, 1886.

Balance on hand July 1, 1886, viz:		
For medical attendance and medicines	\$3,243.90	
For medical attendance and medicines for officers of the Army doing duty in connection with the Signal Service	100.00	
For medical and hospital supplies at Fort Myer, Va.....	183.55	
For work and supplies at Fort Myer, Va.....	.13	
For medical and hospital supplies to officers and enlisted men of the Signal Corps from U. S. Army purveying depots and dispensaries.....	1,000.00	
Total to be accounted for.....	4,527.58	

Disbursed during the year:

For medical attendance and medicines.....	\$744.05	
For medical and hospital supplies at Fort Myer, Va.....	3.75	
For medical and hospital supplies to officers and enlisted men from purveying depots and dispensaries	360.96	
		<u>1,108.76</u>

Balance to be accounted for July 1, 1887.....	3,418.82	
		<u>3,418.82</u>

Signal Service, Medical Department, 1885.

Balance on hand July 1, 1886, viz:		
For medical attendance and medicines.....	\$2,973.06	
For medical attendance and medicines for officers doing duty in connection with the Signal Service	97.15	
For medical and hospital supplies for Fort Myer, Va	42.06	
For material for repair of hospital at Fort Myer, Va.....	.04	
For medicines to officers and enlisted men of the Signal Corps from U. S. Army purveying depots and dispensaries	524.26	
Total to be accounted for.....	3,636.57	
Transferred to surplus fund.....	3,636.57	
		<u>3,636.57</u>

Artificial Limbs, 1884 and prior years.

Balance from previous fiscal year.....	\$1,443.20	
War warrant, under section 5 of the act of March 3, 1875	92.48	
Total to be accounted for.....	1,535.68	
Disbursed during the year.....	\$92.48	
Carried to the surplus fund.....	1,443.20	
		<u>1,535.68</u>

PAPERS ACCOMPANYING THE

Artificial limbs, 1885.

Balance from previous fiscal year.....		\$2,602.51
Disbursed during the year.....	\$18.15	
Carried to the surplus fund.....	1,743.35	
		<u>1,761.53</u>
Balance remaining June 30, 1887.....		<u>840.98</u>

Artificial limbs, 1886.

Balance from previous fiscal year.....		\$99,995.93
Disbursed during the year.....		16,307.69
Balance remaining June 30, 1887.....		<u>83,688.04</u>

Artificial limbs, 1887.

Appropriated by act of August 4, 1886.....		\$200,000.00
Disbursed during the year.....		92,306.75
Balance remaining June 30, 1887.....		<u>107,693.25</u>

Appliances for disabled soldiers, 1885.

Balance from previous fiscal year.....		\$1,697.50
Carried to the surplus fund.....		1,697.50

Appliances for disabled soldiers, 1886.

Balance from previous fiscal year.....		\$1,658.50
Disbursed during the year.....		10.00
Balance remaining June 30, 1887.....		<u>1,648.50</u>

Appliances for disabled soldiers, 1887.

Appropriated by act of August 4, 1886.....		\$2,000.00
Disbursed during the year.....		643.00
Balance remaining June 30, 1887.....		<u>1,357.00</u>

Medical and Surgical History.

Balance from previous fiscal year.....		\$8,565.22
Disbursed during the year.....		4,311.00
Balance remaining June 30, 1887.....		<u>4,254.22</u>

Museum and library, 1886.

Balance from previous fiscal year.....		\$2,439.70
Disbursed during the year.....		2,439.70

Army Medical Museum, 1887.

Appropriated by act of June 30, 1886.....		\$5,000.00
Disbursed during the year.....		4,309.50
Balance remaining June 30, 1887.....		<u>690.50</u>

Library of the Surgeon-General's Office, 1887.

Appropriated by act of June 30, 1886.....		\$10,000.00
Disbursed during the year.....		9,675.63
Balance remaining, June 30, 1887.....		<u>324.37</u>

Maintenance of Army and Navy Hospital at Hot Springs, Ark., 1887: Ex-	
ended for pay of civilian employes from September 1, 1886, to June	
30, 1887.....	\$6,086.48
Amount expended in furnishing trusses under sections 1176, 1177, 1178,	
Revised Statutes.....	5,061.98

There were furnished during the year:

kind:	
Trusses.....	878
Artificial legs.....	103
Artificial foot.....	1
Artificial arms.....	3
Amputation:	
Artificial legs.....	301
Artificial feet.....	13
Artificial arms.....	390
Artificial hands.....	6
Apparatus for legs.....	343
Apparatus for arms.....	517

HEALTH OF THE ARMY AS A WHOLE.

The mean strength of the Army for the year, including officers and both white and colored enlisted men, was 23,572, as shown by the monthly reports of medical officers. Of this number 21,430 were white, and 2,142 were colored (of African descent). These figures represent the average number present during each day of the year, with commands from which reports were received by the Medical Department. But the mean strength of the entire Army, as shown by the returns of the Adjutant-General, was considerably greater than that given above, being 23,737 white and 2,358 colored, or a total of 26,095 men. The discrepancy between the two sets of figures is due to the fact that every officer and enlisted man of the Army is accounted for on the returns of the Adjutant-General, while the consolidated reports of the Medical Department show only the strength of the commands from which they are received, and do not include the strength of officers and enlisted men on detached service, and of those commands to which no medical officer is attached, or from which no reports are received.

All the ratios given under the heads of the different regions are based on the mean strength as shown by the medical reports, and, with the exception of the death and discharge rates, are very nearly correct, because no cases of disease or injury are reported for that portion of the Army whose mean strength is not reported also, and the number of cases thus lost probably balances the loss in strength. But in the record of deaths and discharges no such loss occurs, for all must, of course, be reported from one source or another; so that these two ratios, as stated for the several regions, are somewhat too high, because they are based upon the mean strength reported by medical officers, which, as above stated, is somewhat less than the actual strength of the respective commands. For the different regions, however, no other strength than that given in the medical reports is at hand, and consequently it has been necessary to use this strength in calculating *all* the ratios for these regions; but for the whole Army the mean strength as shown by the Adjutant-General's returns is available, and has been used in computing the rates of *death and discharge*. For all other ratios the mean strength shown by the consolidated reports of the Medical Department is used, and not that of the Adjutant-General, which would make these ratios too low, for reasons indicated above.

The Indian scouts employed as auxiliaries to the regular troops averaged for the year 310, but they have not been included in the mean strength of the Army, or in calculating any of the ratios given in this report, for the reason that they have so little in common with the regular troops in respect of their surroundings, habits, manner of living, duration of service, etc., that no comparisons of any value can be made concerning them; and when sick they so rarely come under the observation of medical officers that the reports of commands to which they are attached furnish but little or no information relative to the amount and character of sickness among them.

In the following table the leading statistics relative to the health of the Army are briefly shown:

	White.	Colored.	Total.
Average strength as shown by returns of the Adjutant-General..	*23,737	*2,358	*26,095
as shown by reports of the Medical Department.....	121,430	12,142	123,572
All admissions to sick report during the year.....	26,550	3,211	29,761
treated in hospital.....	11,769	1,096	12,865
treated in quarters.....	14,143	2,083	16,226
treated in the field.....	638	32	670
Ratio of all admissions per 1,000 of mean strength.....	1,239	1,490	1,263
for previous year.....	1,353	1,505	1,367
for preceding decade.....	1,655	1,839	1,672
Admissions for disease.....	21,785	2,647	24,432
ratio per 1,000 of mean strength.....	1,017	1,236	1,036
Admissions for injuries.....	4,765	564	5,329
ratio per 1,000 of mean strength.....	222	263	226
Ratio, per 1,000 of mean strength, of cases treated in hospital.....	549	511	546
of cases treated in quarters.....	660	973	688
of cases treated in the field.....	30	15	29
Average number constantly non-effective during the year.....	836	93	929
ratio per 1,000 of mean strength.....	39.0	43.4	39.4
for the previous year.....	40.9	42.4	41.1
for the preceding decade.....	44.1	43.3	44.0
Number of days lost on account of sickness during the year.....	305,115	33,988	339,103
average for each man of the Army.....	14.2	15.9	14.4
for the previous year.....	14.9	15.4	15.0
for the preceding decade.....	16.1	15.8	16.1
Average number of days each case was treated.....	11.5	10.6	11.4
Average days treatment for patients returned to duty.....	10.0	8.2	9.6
discharged for disability.....	80.1	92.4	81.3
who died.....	22.7	52.9	25.0
Number of discharges for disability.....	502	58	650
ratio per 1,000 of mean strength.....	24.0	24.6	24.9
for the previous year.....	28.8	25.3	28.5
for the preceding decade.....	32.4	30.8	32.2
Number of discharges for disease.....	542	52	594
for injuries.....	50	6	56
Number of deaths from all causes.....	213	17	230
ratio per 1,000 of mean strength.....	9.0	7.2	8.8
for the previous year.....	7.0	5.6	6.9
for the preceding decade.....	11.2	13.4	11.4
Number of deaths from disease.....	140	10	150
from injuries.....	73	7	80

* Used in computing the ratios of deaths and discharges for the whole Army.

† Used in computing all ratios for the whole Army, except those of deaths and discharges.

The admission rate per 1,000 of mean strength for the Army during the year 1886 was 1,263, as against 1,367 for 1885, and 1,672 for the preceding decade.

The rate of constant non-effectiveness was also lowered this year, being 39.4, while that for the previous year was 41.1, and for the preceding decade 44, per 1,000 of mean strength. The average loss of time on account of sickness for each man in the Army was 14 days, against 15 for 1885, and 16 for the preceding decade.

The death rate was 8.8 per 1,000, being higher than that for 1885, which was 6.9, an exceptionally low figure; but it was, however, considerably lower than the rate for the preceding decade, which was 11.4.

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The following tables show the number and rate of occurrence of deaths for the different branches of the service, and for men of different ages and lengths of service :

Deaths occurring among officers and enlisted men in the different branches of service.

Arms of service.	Officers.			Enlisted men.			Total.		
	Mean strength serving in each arm.	Deaths.	Ratio per 1,000 of strength.	Mean strength serving in each arm.	Deaths.	Ratio per 1,000 of strength.	Mean strength serving in each arm.	Deaths.	Ratio per 1,000 of strength.
Engineers.....	109	1	9.2	418	3	7.2	527	4	7.6
Ordnance.....	59	1	16.9	396	1	2.5	455	2	4.4
Artillery.....	276	5	18.1	2,572	23	8.9	2,848	28	9.8
Cavalry.....	423	5	11.8	7,023	60	8.5	7,446	65	8.7
Infantry.....	858	12	14.0	11,018	83	7.5	11,876	95	8.0
Signal Corps.....	17			485	5	10.3	502	5	10.0
General service.....				149	1	6.7	149	1	6.7
Recruits at depots.				1,465	15	10.2	1,465	15	10.2
Non-commissioned staff.....				427	8	18.7	427	8	18.7
General officers and commissioned staff corps.....	400	7	17.5				400	7	17.5
Total for the Army.....	2,142	81	14.5	23,953	199	8.3	26,095	230	8.8

Deaths occurring among officers and enlisted men at the several years of service given.

Years of service.	Officers.			Enlisted men.			Total.		
	Mean strength serving in each group.	Deaths.	Ratio per 1,000 of strength.	Mean strength serving in each group.	Deaths.	Ratio per 1,000 of strength.	Mean strength serving in each group.	Deaths.	Ratio per 1,000 of strength.
Under one year..	7			3,287	27	8.2	3,294	27	8.2
One year.....	22			2,899	17	5.9	2,921	17	5.8
Two years.....	30			3,608	26	7.2	3,638	26	7.1
Three years.....	24	1	41.7	2,625	17	6.5	2,649	18	6.8
Four years.....	51			2,201	14	6.4	2,252	14	6.2
Five years.....	62			993	9	9.1	1,055	9	8.5
Six years.....	69			1,081	8	7.4	1,150	8	7.0
Seven years.....	50	1	20.0	848	4	4.7	898	5	5.6
Eight years.....	70	1	14.3	590	9	15.1	660	10	15.9
Nine years.....	81			658	2	3.0	739	2	2.7
Twelve years.....	156	2	12.8	766	11	14.4	922	13	14.1
Twelve years.....	184	1	5.4	1,169	12	10.3	1,353	13	9.6
Fifteen years and over.....	1,336	25	18.6	3,258	43	13.2	4,594	68	14.8
Total for the Army.....	2,142	31	14.5	23,953	199	8.3	26,095	230	8.8

Deaths occurring among officers and enlisted men serving at the ages given.

Ages in each quinquennial group.	Officers.			Enlisted men.			Total.		
	Mean strength serving in each group.	Deaths.	Ratio per 1,000 of strength.	Mean strength serving in each group.	Deaths.	Ratio per 1,000 of strength.	Mean strength serving in each group.	Deaths.	Ratio per 1,000 of strength.
Sixteen to twenty years.....				198	9	45.5	198	9	45.5
Twenty-one to twenty-five years.....	87			8,187	67	8.2	8,274	67	8.1
Twenty-six to thirty years.....	343	2	5.8	6,824	30	4.4	7,167	32	4.5
Thirty-one to thirty-five years.....	301	5	16.6	3,907	28	7.2	4,208	33	7.8
Thirty-six to forty years.....	281	3	10.7	2,717	30	11.1	2,998	33	11.0
Forty-one to forty-five years.....	379	7	18.5	1,309	17	13.0	1,688	24	14.2
Forty-six to fifty years.....	371	8	21.6	529	9	17.0	900	17	18.9
Fifty-one to fifty-five years.....	200	2	10.0	194		25.8	394	7	17.8
Fifty-six to sixty years.....	110	2	18.2	60	1	16.7	170	3	17.6
Over sixty years.....	70	2	28.6	28	3	107.1	98	5	51.0
Total for the Army.....	2,142	31	14.5	23,053	199	8.3	26,095	230	8.8

The rate of discharges for disability was 24.9 per 1,000 of mean strength, against 28.5 for 1885, and 32.2 for the preceding decade.

The following tables show the number and rate of occurrence of discharges for disability for the different branches of the service, and for men of different ages and lengths of service:

Discharges occurring in the different branches of the service.

Arm of service.	Enlisted men serving in each arm.	Discharges.	Ratio per 1,000 of strength.
Engineers.....	418	8	19.1
Ordnance.....	396	3	7.6
Artillery.....	2,572	89	34.6
Cavalry.....	7,023	219	31.2
Infantry.....	11,018	289	26.2
Signal Corps.....	485		
General service.....	149	1	6.7
Recruits at depots.....	1,465	36	24.6
Non-commissioned staff.....	427	5	11.7
Total for the Army.....	23,953	650	27.1

Discharges occurring among enlisted men at the years of service given.

Years of service.	Enlisted men serving in each group.	Discharges.	Ratio per 1,000 of strength.
Under one year	3,287	101	30.7
One year	2,899	124	42.8
Two years	3,608	107	29.7
Three years	2,625	78	29.7
Four years	2,201	43	10.5
Five years	903	19	19.1
Six years	1,081	22	20.4
Seven years	848	22	25.0
Eight years	580	12	21.4
Nine years	658	13	19.8
Ten years	766	8	10.4
Eleven years	1,169	16	13.7
Twelve years and over	3,258	85	26.0
Total for the Army	23,953	650	27.1

Discharges occurring among enlisted men serving at the ages given.

Ages for each quinquennial group.	Enlisted men serving in each group.	Discharges.	Ratio per 1,000 of strength.
Under twenty years	198	36	181.8
Twenty-one to twenty-five years	8,187	264	32.2
Twenty-six to thirty years	6,824	162	23.7
Thirty-one to thirty-five years	3,907	72	18.4
Thirty-six to forty years	2,717	51	18.8
Forty-one to forty-five years	1,309	28	21.4
Forty-six to fifty years	529	19	35.9
Fifty-one to fifty-five years	194	14	72.2
Fifty-six to sixty years	60	3	50.0
Over sixty years	28	1	35.7
Total for the Army	23,953	650	27.1

The death rate for the whole Army, 8.8 per 1,000 of mean strength, was in the proportion of 4.7 in hospital, 3.8 in quarters, and 0.3 in the field; that of discharges for disability was 24.9, in the proportion of 17.3 from hospital, 7.3 from quarters, and 0.3 from the field; and that of constant non-effectiveness on account of sickness was 39.4, in the proportion of 25.9 in hospital, 12.7 in quarters, and 0.8 in the field.

The average duration of each case of sickness for the entire Army, counting admissions to sick report of every description, was 11 days; for cases treated in hospital it was 17 days; in quarters, 7 days; and in the field, 10 days.

Counting all admissions, the duration of treatment averaged longest (11 days) in the region of the Gulf Coast, and shortest (8 days) in the region of Eastern Timbered Plains and Hills. The region of the Appalachian Mountains gave the lowest average, 5 days; but this is based on the treatment of only 55 cases, the mean strength being but 63, and is consequently not considered in making this comparison. Of cases treated in hospital the average duration was longest (21 days) in the region of the Pacific Coast, and shortest (14 days) in the region of the Northern Lakes; in quarters, longest (8 days) in the last-mentioned region, and shortest (5 days) in the region of Eastern Timbered Plains

and Hills; in the field, longest (11 days) in the region of the Prairies, and shortest (2 days) in the region of the Pacific Coast.

The average duration of treatment for patients who recovered and returned to duty was longest (12 days) in the region of the Pacific Coast, shortest (6 days) in the region of Eastern Timbered Plains and Hills, and 10 days for the whole Army; for those who were discharged for disability, longest (112 days) in the region of the Pacific Coast, shortest (55 days) in the region of the Prairies, and 77 days for the whole Army; and for those who died, longest (66 days) in the region of Eastern Timbered Plains and Hills, shortest (8 days) in the region of the Gulf Coast, and 25 days for the whole Army.

The region of Central Timbered Plains and Hills gave the highest admission rate, 2,222; the highest constant non-effective rate 75; and the highest death rate, 11.7 per 1,000 of mean strength. The region of the Gulf Coast showed the highest rate of discharge for disability, 40.5 per 1,000 of mean strength, and the region of the Northern Lakes the highest death rate per 1,000 of cases treated, 10.8. The lowest rates of admission, constant non-effectiveness, and discharge for disability were 780, 25, and 15.9, respectively, and were all reported from the region of the Northern Lakes. The Appalachian region is credited with a non-effective rate of only 11 per 1,000, but as this is based upon a mean strength of only 63 men, it has not been considered in making this comparison. The region of Eastern Timbered Plains and Hills gave the lowest death rate per 1,000 of mean strength, 6.6, as well as the lowest death rate per 1,000 of cases treated, 4.5.

The following table shows for each of the great regions the mean strength of command, and the ratios per 1,000 of mean strength, of admissions to sick report, constant non-effectiveness, discharges, and deaths:

Regions.	Mean strength.	Ratios per 1,000 of mean strength.						
		Admissions to sick report.				Constantly non-effective.	Discharges for disability.	Deaths.
		Total.	Hospital.	Quarters.	Field.			
Atlantic Coast.....	2, 225	1, 401	671	728	2	42	25.17	11.79
Eastern Timbered Plains and Hills..	916	1, 462	378	1, 084	.....	31	19.65	6.5
Appalachian.....	63	873	48	809	16	11	.....	.....
Northern Lakes.....	1, 192	780	455	325	.....	25	15.94	8.9
Central Timbered Plains and Hills..	1, 114	2, 222	1, 042	1, 180	.....	75	30.52	11.7
Gulf Coast.....	296	1, 439	966	456	17	53	40.54	10.3
Prairies.....	3, 858	1, 256	550	695	11	38	25.40	11.5
Great Plains.....	6, 458	1, 370	588	782	.....	42	30.35	8.6
Cordilleras.....	0, 068	1, 078	439	538	101	35	28.20	9.6
Pacific Coast.....	1, 382	857	328	526	3	31	18.81	3.8
For the Army.	*23, 572	1, 263	546	688	20	39.41	†24.90	†1.80

* As shown by consolidated reports of Medical Department.

† Computed on a mean strength of 26,095, as shown by returns of Adjutant-General.



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The following table shows the number and classified causes of all admissions to sick report, deaths, and discharges, together with the relative position in order of frequency of occurrence occupied by each cause of admission for the whole Army and for each great region :

Classified causes of admissions, deaths, and discharges.	Number for the whole Army.			Relative position of causes of admission.										
	Admissions.	Deaths.	Discharges.	Region of—										
				Whole Army.	Atlantic Coast.	Eastern Timbered Plains and Hills.	Appalachian.	Northern Lakes.	Central Timbered Plains and Hills.	Gulf Coast.	Prairies.	Great Plains.	Cordilleras.	Pacific Coast.
Injuries.....	5,329	80	55	1	1	2	5	1	3	3	1	1	1	1
Diseases of the digestive system.....	3,832	12	45	2	3	4	2	3	4	4	2	2	2	2
Diarrhœal diseases.....	3,450	8	14	3	4	5	3	4	12	7	3	4	3	7
Diseases of the respiratory system.....	3,365	34	67	4	2	1	1	2	6	11	4	3	4	3
Malarial diseases.....	2,751	8	5	5	8	3	8	9	1	1	5	5	5	5
Diseases of the nervous system.....	1,782	16	86	6	11	7	4	6	7	6	6	7	6	8
Diseases of the integumentary system.....	1,737	...	8	7	5	8	7	7	8	5	7	6	7	9
Veneral diseases.....	1,695	...	92	8	6	6	...	5	5	2	8	8	9	6
Diseases of the locomotor system.....	1,138	...	47	9	7	10	6	10	12	8	9	11	11	10
Dietic diseases.....	1,113	1	3	10	9	11	...	8	15	9	11	9	10	4
Constitutional diseases.....	1,083	12	63	11	12	9	...	11	10	10	10	10	8	11
Diseases of the eye.....	440	...	20	12	13	12	...	12	14	14	12	12	12	13
Zoogenous diseases.....	421	...	1	13	10	17	...	13	9	19	14	15	15	17
Diseases of the reproductive system.....	235	1	16	14	15	13	10	19	16	12	13	14	14	18
Diseases of the circulatory system.....	206	23	53	15	19	16	...	16	21	17	15	13	13	13
Specific febrile and acute infectious diseases.....	197	23	...	16	16	14	...	15	11	16	16	19	17	15
Diseases of the ear.....	169	...	13	17	14	19	9	18	19	13	17	16	19	19
Diseases of the lymphatic system.....	163	...	3	18	17	18	...	14	17	20	19	18	16	14
Diseases of the urinary system.....	154	7	15	19	18	15	...	17	18	15	18	17	18	16
Parasitic diseases.....	70	...	...	20	20	21	...	21	13	22	20	20	22	21
Septic diseases.....	52	1	...	21	21	20	...	20	20	18	21	21	21	20
Typho-malarial fever.....	40	3	...	22	...	...	...	...	22	...	...	22	20	...
Diseases of the nose.....	24	...	3	23	22	22	...	22	23	...	22	23	23	22
Developmental diseases.....	8	...	23	24	...	...	...	...	...	21	23	24	24	...
Unclassified.....	306	1	9	...	...	...	...	...	...	...	...	...	...	...
Total deaths.....	...	236	...	...	...	...	...	...	...	...	...	...	...	...
Total discharges.....	...	...	650	...	...	...	...	...	...	...	...	...	...	...
Total cases.....	29,761	...	...	...	...	...	...	...	...	...	...	...	...	...

HEALTH OF INDIVIDUAL POSTS.

Jefferson Barracks, Mo., is the station at which the greatest amount of sickness among troops was reported during the year. With a mean strength of 513, chiefly cavalry recruits, its admission rate was 3,008, and its constantly non-effective rate 100, per 1,000 of mean strength, the former rate is a little less than two and one-half times, and the latter a little less than three times, the average corresponding rate for the whole Army. Malarial fevers, injuries, and diarrhœal diseases, in the order of their relative frequency of occurrence, are the leading causes of non-effectiveness reported at this station.

Fort Davis, Tex., with a mean strength of 221, gave the second highest rate of constant non-effectiveness, 78 per 1,000 of mean strength, the principal causes being venereal diseases, malarial fevers, and diarrhœal diseases. Fort McKinney, Wyo., gave a higher admission rate than Fort Davis, that of the former being 2,875 and that of the latter 2,276 per 1,000 of mean strength, but the rate of constant non-effectiveness at Fort McKinney was 61, or considerably less than that at Fort Davis.

Fort Robinson, Nebr., stood third in order in respect of constant impairment of force by reason of sickness, its mean strength being 19 and its non-effective rate 76 per 1,000. The leading causes of this ineffectiveness were injuries, articular rheumatism, and diseases of the eye.

Fort Davis, Tex., gave the highest admission rate for *typhoid fever*, 49.8 per 1,000 of mean strength; Fort Riley, Kans., the second, 25.2; West Point, N. Y., the third, 21.1; and Jefferson Barracks, Mo., the fourth, 15.6.

Jefferson Barracks, Mo., reported the highest admission rate for *malarial fevers*, 819 per 1,000 of mean strength; Little Rock, Ark., the second, 813; Fort Gibson, Ind. T., the third, 735; and Fort Brown, Tex., the fourth, 507.

Fort Thomas, Ariz., gave the highest rate for so-called *typho-malarial fever*, 51.7 per 1,000 of mean strength; and Fort Lewis, Colo., the second, 37.9.

Fort Davis, Tex., furnished the highest admission rate for *dysentery*, 171.9 per 1,000 of mean strength; and Fort Apache, Ariz., the second, 80.8.

Fort McKinney, Wyo., reported the highest admission rate for *rheumatism*, 475 per 1,000 of mean strength.

The highest death-rates per 1,000 of mean strength were: Headquarters Department of Texas, San Antonio, Tex., 61 (2 deaths in a mean strength of 33 men); Plattsburg Barracks, N. Y., 48; Fort Halleck, Nev., 45 (1 death in a mean strength of 22 men); Fort Mojave, Ariz., 44.

The highest rates of discharge for disability per 1,000 of mean strength were: Fort Ellis, Mont., and San Diego Barracks, Cal., each 100, and Fort Huachuca, Ariz., 89.

COMPARISON WITH FOREIGN ARMIES.

The following table shows a comparison of the more important ratios bearing upon the health of the Army of the United States with the same ratios for certain foreign armies. In compiling these statistics the latest reports received have been used, and in all cases only the strength actually present with the colors has been considered:

Army.	Mean Strength.	Ratio per 1,000 of mean strength for—						Sick time to each soldier.	Average duration of each case of sickness.
		Admissions.			Deaths.	Discharges for disability.	Constant non-effective force.		
		Hospital or infirmary.	Quarters.	Total.					
United States (1886).	23, 572	546	717	1, 263	8. 8	24. 9	39. 4	14	11
United States (1876-85, yearly average)	23, 805	.....	.....	1, 672	11. 4	82. 2	44. 0	16	10
Belgium (1885).....	46, 017	1, 525	.....	1, 525	5. 3	10. 6	30. 0	11	7
Great Britain (1884).....	167, 686	1, 092	.....	1, 092	8. 4	18. 0	56. 4	21	19
France (1878).....	440, 614	554	2, 016	2, 570	9. 1	13. 7	46. 6	17	7
Italy (1881).....	191, 360	928	.....	928	10. 6	19. 4	35. 4	13	14
Prussia and Württemberg (1881-'82).	353, 192	824	807	1, 131	4. 6	27. 0	38. 8	13	11

SPECIFIC FEBRILE AND ACUTE INFECTIOUS DISEASES.

Of this class of diseases the admission rate for the Army for the year was 8.36 per 1,000 of mean strength; for 1885 it was 10.90, and for the preceding decade the annual rate averaged 18.99.

The following table shows the rate of occurrence of some of the principal diseases of this class in the Army of the United States for the year 1886, and the average annual rate for the previous decade, together with the admission rates of the same diseases in certain foreign armies, as gathered from the latest reports accessible:

Diseases.	Armies.						
	United States, 1886.	United States yearly average, 1876-'85.	Belgium, 1885.	Great Britain, 1884.	France, 1878.	Italy, 1881.	Prussia and Wurttemberg, 1881-'82.
Typhoid fever.....	3.95	3.88	4.54	1.07	8.58	7.43	5.58
Typhus fever.....		.05					
Yellow fever.....		.28					
Small-pox.....	.13	.25		.12			.01
Variceloid.....	.08	.18	.46		2.85	1.03	.08
Chicken-pox.....		.15					
Measles.....	1.65	2.35	.50	2.08	8.91	10.82	.62
Scarlet fever.....	.25	.23	2.72	2.04	.21	.05	1.87
Mumps.....	.68	2.70					
Diphtheria.....	.13	.45				.06	1.63
Whooping-cough.....	.17	.07					
Cerebro-spinal fever.....	.04	.08	.09	.01		.16	

The admission rate for this class of diseases was highest (32.32) in the region of Central Timbered Plains and Hills; no cases were reported among troops in the Appalachian Mountain region. The total number of admissions was 197, of deaths 23, and of discharges none. The white troops gave admission and death rates of 8.12 and 0.93 respectively, per 1,000 of mean strength; the same rates for the colored troops were 10.74 and 0.42 per 1,000 of mean strength.

The following table shows the number of admissions to sick report, of deaths and of discharges, caused by each disease of this class, and the ratio of admissions for each disease per 1,000 of mean strength for the different arms of the service:

Diseases.	Number for the whole Army.			Ratio of admissions per 1,000 of mean strength for—				
	Admissions.	Deaths.	Discharges.	Infantry.	Cavalry.	Artillery.	All others.	Whole Army.
Typhoid fever.....	93	22		3.03	6.30	3.44	2.46	3.95
Measles.....	39			.73	.29	1.53	7.70	1.65
Mumps.....	16			.55	.15	1.91	1.23	.68
Influenza.....	16			.55	1.46			.68
Quinsy.....	7			.09	.73		.31	.80
Scarlet fever.....	6	1		.37	.29			.25
Whooping-cough.....	4			.18	.15	.38		.17
Diphtheria.....	3			.18			.31	.13
Small-pox.....	3				.44			.13
Variceloid.....	2			.18				.08
Cerebro-spinal fever..	1			.09				.04
Dengue.....	1			.09				.04
All others of this class.	6			.55				.25
Total.....	197	23		6.61	8.81	7.27	12.01	8.86

SPECIAL DISEASES.

For *pulmonary phthisis* the admission rate for the year was 3.52 per 1,000 of mean strength; it was highest (6.74) in the region of the Atlantic Coast, while for the regions of the Appalachian Mountains and of the Gulf Coast no cases were reported. The number of cases of this disease recorded during the year was 83, with 13 deaths and 57 discharges; 6 of these cases, with no deaths, and 5 discharges occurred among the colored troops. For *pneumonia* the admission rate for the whole Army was 2.97; it was highest (7.18) in the region of Central Timbered Plains and Hills, and, as for the previous cause of admission, no cases occurred in either the region of the Appalachian Mountains or of the Gulf Coast. The total number of cases treated was 70, the deaths 16, and the discharges 5; of these, 7 cases, 2 deaths, and no discharges were furnished by colored troops. For *pleurisy* the admission rate was the same as for pneumonia, 2.97; it was highest (6.55) in the region of Eastern Timbered Plains and Hills, and, as above, the regions of the Appalachian Mountains and of the Gulf Coast furnished no cases. The admissions aggregated 70 and the deaths 2; there were no discharges. The colored troops reported 13 of the cases, no deaths, and no discharges. For *bronchitis* the rate was 45.82; it was highest (111.11) in the region of the Appalachian Mountains and lowest (20.27) in the region of the Gulf Coast. The whole number of cases reported was 1,080, of deaths 2, and of discharges 1; 120 of the cases, no deaths and no discharges, occurring among the colored troops. For *catarrhs and common colds* an admission rate of 80.90 is recorded; it was highest (171.40) in the region of Eastern Timbered Plains and Hills, and lowest (6.76) in the region of the Gulf Coast. The number of cases taken on sick report was 1,907, with no deaths or discharges; 285 of these cases were furnished by colored troops. For *acute articular rheumatism* the rate was 3.73; it was highest (4.78) in the region of the Cordilleras; no admissions were reported in the regions of Eastern Timbered Plains and Hills, the Appalachian Mountains, or the Northern Lakes. The number of cases recorded during the year was 88, with 2 deaths and 2 discharges; 20 of the cases, no deaths, and 1 discharge occurred among colored troops. For *articular rheumatism, subacute and chronic*, the admission rate was 38.01; it was highest (60.04) in the region of Eastern Timbered Plains and Hills; no cases were reported from the Appalachian Mountain region. The total number of cases admitted was 896, with no deaths and 45 discharges; 206 of the cases and 8 discharges occurred among the colored troops. For *diarrhea, acute and chronic*, a rate of 129.69 was recorded; it was highest (350.09) in the region of Central Timbered Plains and Hills, and lowest (47.03) in the region of the Pacific Coast. The number of cases taken on sick report was 3,057; the number of deaths was 2, of discharges 9; 307 of the cases, and no deaths or discharges, occurred among the colored troops. For *dysentery, acute and chronic*, the rate was 10.18; it was highest (15.66) in the region of the Cordilleras; in the region of Eastern Timbered Plains and Hills, and of the Appalachian Mountains no cases were reported during the year. The total number of cases admitted was 240; the deaths were 6, and the discharges 5; the number of cases reported among colored troops was 28; of deaths and discharges, none. For *paroxysmal (malarial) fevers* the admission rate was 116.71; it was highest (512.57) in the region of Central Timbered Plains and Hills, and lowest (27.68) in the region of the Northern Lakes. The whole number of cases aggregated 2,751, the deaths 8, and the discharges 5; among the colored

troops 245 cases were reported, with neither deaths nor discharges. For *typho-malarial fever* (so called) the rate was 1.70; it was highest (5.78) in the region of the Cordilleras; the only regions other than this reporting cases with this diagnosis were the Great Plains and Central Timbered Plains and Hills. The total number of cases admitted was 1,000, the deaths 3, and the discharges none; no cases were reported among the colored troops. For *typhoid fever* an admission rate of 3.95 for the whole Army was reported; it was highest (8.73) in the region of the Eastern Timbered Plains and Hills; no cases were reported in the region of the Appalachian Mountains or of the Gulf Coast. The cases aggregated 93 and the deaths 22; no discharges were reported; 2 of these cases, and 1 death, occurred among the colored troops.

VENEREAL DISEASES.

The admissions to sick report recorded under this head during the year numbered 1,695, the discharges 92, the deaths none, and the total number of days lost 41,576; the admission rate was 72, and the constant non-effective rate 4.83, per 1,000 of mean strength; 5.7 per cent. of all the admissions to sick report during the year, and 12 per cent. of all the time lost through sickness, were due to these causes.

The posts showing the highest admission rates for this class of diseases were Fort Brown, Tex., Columbus Barracks, Ohio, and Fort Mojave, Ariz., their respective rates being 392, 361, and 244 per 1,000 of mean strength, the lowest of which is more than three times the average for the whole Army.

ALCOHOLISM AND ITS EFFECTS.

Under this head have been grouped all cases taken upon sick report, in which the disability, whether slight or severe, acute or chronic, was directly due to the ingestion of alcohol in some form. The figures given do not by any means represent the total impairment of force attributable to this cause, but only that portion of it connected with pathological conditions of sufficient importance to require the attention of medical officers, and to necessitate their excusing men from some part of their military duty.

The admissions to sick report charged to alcoholism and its effects numbered 1,110, the discharges 2, and the deaths 1; the admission rate was 47, and the constant non-effective rate .52 per 1,000 of mean strength; 3.7 per cent. of all the admissions to sick report during the year, and 1.3 per cent. of all the time lost through sickness, were due to these causes.

The posts showing the highest admission rates for this class of cases were Fort Sidney, Nebr., Fort Missoula, Mont., and Fort Marcy, N. Mex., their respective rates being 232, 213, and 177 per 1,000 of mean strength, the lowest of which is more than three times the average for the whole Army.

Venereal diseases and alcoholism combined stood fifth in order of relative frequency of occurrence among all the causes of admission to sick report during the year; the total loss to the Government in time was 46,028 days; 9.4 per cent. of all the admissions to sick report, and 13.6 per cent. of all the time lost through sickness, were due to these diseases.

The following table shows the number of admissions for venereal diseases, alcoholism, and for the two combined, the ratio of admissions per

1,000 of mean strength and the average number of days of treatment in each case for the whole Army and for the white and colored troops separately:

For the whole Army.	Syph- ilis.	Chan- creid.	Gonor- rhea.	Other vene- real dis- eases.	Total.	Alco- holism.	Grand total.
Total number of admissions.....	537	159	784	224	1,695	1,110	2,805
White	447	122	724	221	1,544	1,100	2,644
Colored	90	18	60	12	151	10	161
Ratio of admissions per 1,000 of mean strength	23	6	33	10	72	47	119
White	22	6	34	10	72	51	123
Colored	28	8	26	6	70	5	75
Average number of days' treatment in each case	30	25	21	25	25	4	16
White	31	24	21	25	25	4	16
Colored	25	26	17	23	22	12	21

INJURIES.

Out of a total of 29,761 admissions to sick report for all causes during the year, 5,329, or 17.9 per cent., of these admissions were charged to injuries of various kinds. The deaths numbered 80 and the discharges 56, or 34.8 and 8.6 per cent., respectively, of all deaths and discharges. The ratio of admissions per 1,000 of mean strength was 226, of constant non-effectiveness 8.1, of discharges 2.1, and of deaths 3.1. The average duration of treatment was 13 days for each case.

Shot wounds.—The admissions to sick report during the year for injuries of this character numbered 110, with 10 deaths and 21 discharges. In addition there were 18 cases in which death occurred instantaneously, or soon after the receipt of the injury, so that they were not taken upon sick report as cases treated. The whole number of casualties of this class, therefore, was 128, of which 6, with 3 deaths, occurred in action (with hostile Indians); 6, with 1 death, were caused by the premature explosion of cannon or large shells; 11, with no deaths, by accidents connected with the reloading of cartridges; 14, with no deaths, by accidents at target practice; 16, with 2 deaths, by accidents while hunting; 33, with 1 death, by other accidents; 26, with 10 deaths, were caused by personal encounters; in 13 cases, with 11 deaths, the wounds were self-inflicted with suicidal intent; and in 3 cases, with no deaths, they were self-inflicted by malingerers.

SURGICAL OPERATIONS.

There were 152 surgical operations reported by medical officers during the year; 68 of these were necessitated by injuries, and 84 by various surgical diseases. Antiseptics were used in 71 cases after operations, 21 of which were for shot wounds, and in the treatment of 16 cases of shot wound not operated upon.

COLORLED TROOPS.

The colored troops in service during the year consisted of 2 regiments of infantry, 2 of cavalry, 4 ordnance sergeants, 3 quartermaster sergeants, and 126 unassigned recruits, making an aggregate mean strength of 2,142 men. Included in this number are only two commissioned officers, both regimental chaplains.

The following table shows the regions in which colored troops were employed, and a comparison between them and the white troops serving in the same regions, as to mean strength, and rates of admission to sick report, constant non-effectiveness, death, and discharge for disability. For reasons previously given the mean strength shown by the returns of the Adjutant General has been used in calculating the death and discharge rates for the whole Army, but not for the several regions:

	Region of—												Whole Army.	
	Atlantic Coast.		Northern Lakes.		Central Timbered Plains and Hills.		Prairies.		Great Plains.		Cordilleras.			
	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.
Mean strength.....	2,194	31	980	203	1,028	86	3,593	265	5,559	899	5,410	658	21,430	2,142
Ratio per 1,000 of mean strength of—														
Admissions.....	1,390	2,194	825	562	2,186	2,651	1,247	1,374	1,316	1,709	1,043	1,369	1,239	1,499
Constant non-effectiveness.....	41	77	26	19	73	106	38	39	42	43	34	44	39	43
Deaths.....	10.9	.0	9.1	4.9	12.6	.0	11.4	7.5	8.1	7.8	8.9	10.6	9.0	7.2
Discharges.....	25.1	32.3	12.1	34.5	30.2	34.9	23.9	45.3	31.5	23.4	27.0	19.8	24.9	24.6

In the regions of the Atlantic Coast and Central Tim-bered Plains and Hills the mean strength of the colored troops was so small that any comparison based upon it would be of little value; in the other regions, however, the force was larger, and the ratios given are in consequence more reliable.

In the region of the Northern Lakes the rates of admission to sick report, constant non-effectiveness, and deaths were decidedly in favor of the colored troops, but their rate of discharges for disability was nearly three times as large as that of the white troops. In the region of the Prairies all the rates of the colored troops were higher than those of the white, except the death rate, which was considerably lower. In the region of the Great Plains the colored troops gave lower death and discharge rates than the whites, but higher admission and non-effective rates. In the region of the Cordilleras all the rates of the colored troops were higher than those of the white, except the discharge rate, which was very much lower. For the whole Army the admission and constant non-effective rates given by the colored troops were considerably higher than the same rates for the white troops, but their death rate was lower. Discharges for disability occurred in about the same proportion for both races.

The following table shows the principal causes of disability, in rates of occurrence of which a notable disparity existed between white and colored troops:

In favor of the white troops.			In favor of the colored troops.		
Diseases.	Admission rate per 1,000 of mean strength for—		Diseases.	Admission rate per 1,000 of mean strength for—	
	White.	Colored.		Colored.	White.
Influenza .....	.87	3.73	Enteric fever.....	.93	4.2
Measles	1.40	4.20	Malarial fever, continued ..	.00	2.0
Rheumatic fever	3.17	9.34	Remittent fever.....	11.67	18.0
Articular rheumatism (sub-acute and chronic)	32.20	96.17	Typho-malarial fever.....	.00	1.0
Epilepsy	2.38	6.07	Cholera morbus	1.40	7.0
Headache	24.03	49.49	Erysipelas .....	.00	2.0
Neuralgia	36.21	58.82	Venereal epididymitis and orchitis	1.87	4.0
Snow blindness .....	.05	2.33	Alcoholism and results.....	4.67	52.0
Asthma	1.68	8.87	Insanity .....	.47	1.0
Catarrh and colds	75.69	133.05	Gastritis .....	.47	2.0
Pharyngitis and results	2.60	6.07	Synovitis .....	.93	3.0
Tonsillitis	40.04	75.16			
Colic	18.62	28.48			
Constipation	19.93	48.09			
Orchitis, non-venereal.....	3.17	9.34			

INDIAN SCOUTS.

The mean strength of Indians employed as scouts during the year was 310. Their admissions to sick report numbered 47, or a rate of 152 per 1,000, and their deaths 5, or a rate of 16 per 1,000.

The most frequently reported causes of admission among them were injuries, malarial fevers, and diseases of the eye. Seven were taken upon sick report for shot injuries; 3 received their wounds in action (none fatal), and 4 by various accidents.

Two Indian scouts died of consumption during the year, and 1 of heart disease; 1 was run over by a railroad train and killed, and 1 was shot dead by another scout, whether accidentally or with homicidal intent is unknown.

* * * * *

DISABLED MEDICAL OFFICERS.

There are 16 medical officers on sick leave of absence; of these, 7 have been found incapacitated for active service, and recommended for retirement by Army retiring boards, viz: Asst. Surg. James W. Buell, who has been on sick leave since August 23, 1877; William R. Steinmetz, who has been on sick leave since September 16, 1878; J. V. De Hanne, who has been on sick leave since June 22, 1879; Joseph Y. Porter, who was ordered to his home by Special Orders No. 136, Headquarters of the Army, A. G. O., June 15, 1885; F. W. Elbrey, who has been on sick leave since July 26, 1882; Surg. B. E. Fryer, who has been on sick leave since July 1, 1885, with the exception of five months, and William S. Tremaine, who has been on sick leave since February 10, 1885; 6 others are regarded as permanently disabled, leaving 179 medical officers for duty.

The number of medical officers permanently disabled is becoming a matter of serious embarrassment to the efficiency of this Department,

renders necessary the employment, under contract, of private physicians; an expensive and unsatisfactory procedure, to remedy which it is hoped that Congress may be induced to take action by special or general legislation.

With this view I urgently recommend that an increase of 20 assistant surgeons be authorized; which addition, it is believed, will meet the necessities of the service.

JNO. MOORE,

Surgeon-General, U. S. Army.

The HONORABLE

THE SECRETARY OF WAR.

REPORT OF THE PAYMASTER-GENERAL.

PAYMASTER-GENERAL'S OFFICE,

Washington, D. C., October 10, 1887.

SIR: I have the honor to submit my annual report of the transactions of the Pay Department of the Army for the fiscal year ending June 30, 1887.

The tabular statements herewith show in minute detail all the fiscal operations of the Department for the year.

The following is a summary of the receipts and disbursements:

RECEIPTS AND DISBURSEMENTS DURING THE FISCAL YEAR ENDING JUNE 30, 1887.

Balance in hands of paymasters July 1, 1886	\$1,253,289.63
Amount received from the Treasury	13,910,116.36
Amount received from soldiers' deposits	436,574.98
Amount received from paymasters' collections	287,384.66

Total to be accounted for 15,887,365.63

Accounted for as follows:

Disbursements:

To the Army	\$12,980,214.74
To the Military Academy	207,815.16
To the Signal Service	189,202.06
To the Volunteers (on Treasury certificates)	853,124.96

Total	14,230,356.86
Surplus funds deposited in Treasury	30,609.52
Paymasters' collections deposited in Treasury	27,384.66
Balance in hands of paymasters June 30, 1887	1,319,014.59

Total accounted for \$15,887,365.63

The reports of the chief paymasters of the several departments show that the troops during the past fiscal year were paid promptly on their bi-monthly muster.

The amount disbursed during the last fiscal year shows a large increase over the amount disbursed during the prior year. This increase is due to the large amount paid on Treasury certificates in the settlement of claims of the soldiers of the late war for back pay and bounty.

As an incident of the risks incurred by the officers of this Department in carrying large sums of currency through the unsettled territories, I have to report the robbery of Maj. D. N. Bash on March 18, 1887, of \$7,350.93. The robbery occurred at a place named Antelope Springs, a stage station in Wyoming Territory, while Major

Bash was en route to pay the troops at Fort McKinney. The robber has been captured and is now in the hands of the civil authorities awaiting trial.

At date of my last annual report the number of officers in this Department was forty-eight. Since that date the Department has lost three officers by the retirement of Col. George L. Febiger, assistant paymaster-general, and Maj. Charles J. Sprague, paymaster, and by the death of Maj. John E. Blaine, paymaster. Of the forty-five officers now in the Department only forty are available for duty, and this number will, before the close of the next fiscal year, be reduced to thirty-seven by the retirement of three officers now on active duty.

As there seemed to be a constant and pressing demand from the enlisted men of the Army for more frequent payments, and it was urged by many officers that payments to the troops at short intervals would tend to check desertion and improve the *morale* of the Army, I addressed a letter to the Adjutant-General of the Army, requesting that the necessary orders issue directing that the troops at the twenty-nine following-named posts be mustered for pay on July 31, 1887, and monthly thereafter:

List of posts to be paid monthly.

- | | |
|--|---|
| 1. Fort Wood, New York Harbor. | 16. Leavenworth Military Prison. |
| 2. Fort Columbus, New York Harbor. | 17. Jefferson Barracks, Missouri. |
| 3. Fort Wadsworth, New York Harbor. | 18. Fort Omaha, Nebraska. |
| 4. Fort Hamilton, New York Harbor. | 19. Salt Lake City Barracks, Utah. |
| 5. Fort Schuyler, New York Harbor. | 20. Fort Douglass, Utah. |
| 6. David's Island, New York Harbor. | 21. Fort Snelling, Minnesota. |
| 7. Willets Point, New York Harbor. | 22. Post of San Antonio, Texas. |
| 8. Sandy Hook, New Jersey. | 23. Fort Bliss, Texas. |
| 9. Fort Warren, Boston Harbor, Massachusetts. | 24. San Diego Barracks, California. |
| 10. Fort Niagara, New York. | 25. Fort Lowell, Arizona. |
| 11. Fort Porter, New York. | 26. Fort Mason, California. |
| 12. Fort Wayne, Michigan. | 27. Presidio of San Francisco, California. |
| 13. Newport Barracks, Kentucky. | 28. Vancouver Barracks, Washington Territory. |
| 14. Washington Barracks, District of Columbia. | 29. Fort Walla Walla, Washington Territory. |
| 15. Fort Leavenworth, Kansas. | |

To this list, at subsequent dates, were added the following six posts:

- | | |
|---------------------------------------|----------------------------------|
| 30. Fort Myer, Va. | 33. Alcatraz Island, California. |
| 31. Watertown Arsenal, Massachusetts. | 34. Fort Mellenry, Md. |
| 32. Angel Island, California. | 35. Fortress Monroe, Va. |

and the various recruiting rendezvous.

The posts selected were those in the vicinity of the stations of paymasters, and were so chosen because the additional payments could be made without any additional cost to the Government except a slight outlay in a few instances, where a small amount of travel expenses would be incurred.

Since the system has been inaugurated, I have had numerous requests to extend it to the more isolated posts, where it was claimed that the advantages to be derived from it would be more sensibly felt, but I was forced to deny them, as with my present available force of officers it would be impossible to pay all the posts so situated, owing to time necessarily consumed in traveling to and from them. If it is deemed to be in the interests of the service that the system of monthly payments be extended to the entire Army, I would recommend that the act of July 5, 1884, be so amended as to limit the number of paymasters to forty, the number now in the Department. I would further

recommend that the proviso of said act be amended so as to read: "That hereafter any paymaster of the rank of major who has served twenty years in the United States Army, as a commissioned officer shall, upon his own application, or by direction of the President, be placed upon the retired list of the Army."

This legislation, if obtained, will place on the retired list four officers whose applications to be retired, under the above proviso, are now pending in the War Department, and would give me in lieu thereof four active officers, and arrest any further depletion of the available force. With the Department thus strengthened it will be possible to pay the entire Army as now stationed, at least once a month.

PAYMASTER'S ACCOUNTS.

Under section 1192, Revised Statutes, all disbursing officers of the pay department are required to renew their bonds, or furnish additional security, at least once in four years. This requirement has been rigidly enforced, and each officer at the expiration of four years from the date of his current bond is required to close his accounts and turn over to another officer of the Department his entire cash balance as shown by his account current rendered to date. His accounts are thus tested before he is supplied with funds under his new bond.

The only balances that are possible to remain against the paymaster after thus closing his accounts are those which may arise in their settlement by the accounting officers of the Treasury. The disallowances now charged against the officers of the pay department, with two exceptions, are upon vouchers paid in good faith, and are mainly due to errors in circulation, to payments made on imperfect vouchers, or without apparent proper authority, and are being rapidly adjusted by the officers affected.

I find among the charges raised by the Second Comptroller against several officers of this Department, items of disbursement paid by order of the Secretary of War. (The disallowance of payments made by and under such authority, works great hardship to the disbursing officer, as on the one hand he is confronted with a charge of disobedience of orders, and on the other with assuming a liability for which either he or his sureties will be held pecuniarily responsible.) Such a system is certainly open to amendment. No officer should be answerable for the same action to two independent superiors.

I would therefore urge that the legislation necessary to sharply define the powers of the War Department in matters of accounts pertaining to the former be requested.

I would again invite attention to a recommendation in a former report in the matter of paymasters' bonds. It is held by the accounting officers of the Treasury, that each bond given by a paymaster is a continuing bond from the date of its approval so long as the officer is in service under his current commission, notwithstanding a new bond is required from him every four years, or oftener if the interests of the service demand it. Under such a ruling paymasters experience great difficulty in obtaining sureties. While a person may be willing to assume a responsibility which will extend through a limited period, he will hesitate to assume one to which no limit is fixed, and from which he can obtain no release. The legislation which has been enacted to remedy this evil in the matter of bonds of collectors of internal revenue (20 Stats., p. 327), and of postmasters (R. S., 3827), should be extended to the bonds of paymasters. I would further recommend, as a

matter of relief to paymasters, that the bond of an approved guaranty company be accepted as security. The bonds of such companies are accepted by very many of our leading railroad and express companies, banking and insurance institutions, for the faithful discharge of the fiscal trust of their employes. If this facility to bond were extended to paymasters, the Department could then with propriety ask the enactment of the legislation necessary to require a paymaster to resign within a specified date, or in the event of his failure to do so, to declare his commission vacated. As the law now stands, the Department has no option in case an officer declines to bond beyond placing him on waiting orders with full pay.

Under a recent ruling of the War Department, the appointment under which a paymaster's clerk is serving, falls if his principal leaves the service of the Pay Department by retirement, or otherwise. In the event of the death of the officer, this limitation greatly hampers the settlement of his accounts. There should be some agent of the Government familiar with the details of his accounts, and competent to render the necessary final returns, placed in charge for a limited period. I would therefore suggest that section 1190, Revised Statutes, be amended as to authorize the appointment by the Secretary of War of such number of additional clerks to paymasters as the service may require.

I am sir, very respectfully, your obedient servant,

WM. B. ROCHESTER,
Paymaster-General, U. S. Army.

The SECRETARY OF WAR.

REPORT OF THE CHIEF OF ENGINEERS.

OFFICE OF THE CHIEF OF ENGINEERS,
UNITED STATES ARMY,
Washington, D. C., October 22, 1887.

SIR: I have the honor to present for your information the following report upon the duties and operations of the Engineer Department for the fiscal year ending June 30, 1887:

OFFICERS OF THE CORPS OF ENGINEERS.

The number of officers holding commissions in the Corps of Engineers, United States Army, at the end of the fiscal year was 109.

Since the last annual report the Corps has lost by retirement and resignation four of its officers: Brig. Gen. John Newton, who was retired August 27, 1886; Col. Charles S. Stewart, who was retired September 16, 1886; and Col. Charles E. Blunt, who was retired January 10, 1887, under provisions of section 1 of the act of Congress approved June 30, 1882; and Capt. Francis V. Greene, who resigned December 31, 1886.

There have been added to the Corps two second lieutenants: one graduate from the Military Academy, July 1, 1886, and one by transfer February 2, 1887; and, by promotion of graduates of the Military Academy, three second lieutenants. Two additional second lieutenants were appointed from the Military Academy to date from June 12, 1887, but they did not become available for duty until after the close of the fiscal year, and are therefore not included in the strength of the Corps

SEA-COAST AND LAKE-FRONTIER DEFENSES.

Owing to the fact that no appropriations for the preservation or repair of existing defensive works have been made since 1885, there have been no operations in connection with these works under the direction of the Engineer Department during the past fiscal year. Many of the works are in a dilapidated condition and are in need of extensive repairs. Their condition is stated in detail in the last annual report, and reference is made to that and previous reports for a general account of these defenses. Many of these works are still of value in connection with new works projected for the defense of our harbors, and economy requires that they should be kept in repair. The estimate submitted for the preservation and repair of such fortifications as are still of value in the projected system of defense.

Special attention is invited to the estimate submitted for the protection of the site of Fort Niagara, N. Y. This reservation is of great value to the military service, but unless it is properly protected it will be injured beyond repair.

Estimates are submitted for the construction of gun and mortar batteries and torpedo casemates and galleries and for the purchase of torpedo material for the defense of our chief sea-ports. The details upon which these estimates are based, and the reasons which render such appropriations of immediate importance, are given in another part of this report.

ESTIMATES OF APPROPRIATIONS REQUIRED FOR 1888-'89.

For purchase of additional land at Fort Hamilton, N. Y	\$180,000
For protecting site of Fort Niagara, N. Y	20,000
For sea-wall at Governor's Island, New York Harbor	50,000
For sea-wall at David's Island, New York Harbor	35,000
For earth embankment at David's Island, New York Harbor	12,000
Fort Marion, Florida:	
For restoration of the old fort to the condition, substantially, in which it was left by the Spaniards	10,000
For construction of gun and mortar batteries for defense of our chief sea-ports	2,840,000
For protection, preservation, and repair of fortifications	175,000
For purchase of submarine mines and necessary appliances to operate them	300,000
For closing the channels leading to our principal sea-ports	1,560,000
For needful casemates, cable galleries, etc., to render it possible to operate submarine mines	30,000
For continuing torpedo experiments, and for practical instruction of engineer troops in the details of service	22,000
For torpedo-shed at San Francisco Harbor	
Total	5,234,000

THE BOARD OF ENGINEERS.

The Board of Engineers stationed in New York City consisted of Col. James C. Duane (until October 11, 1886), Col. Thos. Lincoln Casey (since November 1, 1886), Col. Henry L. Abbot, Col. William P. Craighill (since December 24, 1886), Lieut. Col. Cyrus B. Comstock, Lieut. Col. David C. Houston, Lieut. Col. Walter McFarland, Maj. William R. King (since April 4, 1887), and, when so ordered, the officer in charge of the work under consideration.

During the fiscal year the Board has considered the questions referred to it by the Chief of Engineers, and of the reports submitted the following is a brief summary:

1886, July 6. Report on plan of Dr. Read for movable dam.

July 6. Upon method proposed by Maj. M. B. Adams for constructing cribs for breakwaters or piers, applied to breakwater at Burlington, Vt.

July 6. Upon proposition to remove certain ordnance and stores from Fort Warren.

August 3. Upon proposed change in line of Harlem River improvement.

August 31. Supplementary report on above subject.

August 3. Upon the controllable auto-mobile torpedo of J. N. Patrick.

August 10. Upon Mr. Buckner's project for aerial and submarine warfare.

August 24. Upon certain questions in connection with the tunnel and reservoir of Washington Aqueduct.

September 2. Upon location and plan for a bridge across the Arden Kill.

September 3. Upon project of Maj. M. B. Adams for continuing work on Burlington Breakwater, Vermont.

September 14. Upon project of Lieutenant Black for continuing work of improvement at mouth of St. John's River, Florida.

October 21. Supplementary report on above subject.

September 14. Upon project of Captain Hinman for improving Norfolk Harbor and approaches.

September 14. Upon project of Lieutenant-Colonel Poe for enlargement of the St. Mary's Canal.

October 11. Upon invention of A. P. S. Miller for propelling and exploding torpedoes.

November 16. Relative to repairs of Buffalo Breakwater.

December 11. Replying to a communication of the chairman of committee on harbor and shipping of the New York Chamber of Commerce, upon subject of permanent improvement of the sea entrance of the harbor of New York.

December 14. Upon the Wisconsin River improvement.

December 14. Upon the plan of A. G. Follet for an iron breakwater.

December 17. Upon the question of the construction of a bridge across the East River between the city of New York and Long Island.

December 24. Upon question of testing the gun-cotton of Wolff and Company.

1887, January 5. Upon plan of Mr. Hartwick for investigating currents, etc.

January 11. Upon system of deflectors proposed by Prof. L. M. Haupt.

February 1. Upon plan of J. D. Hansler for preventing drift ice in New York Harbor.

February 2. Upon construction of breakwater at Buffalo, N. Y.

February 2. Upon subject of future repairs to Lake harbor works.

February 3. Upon patent of J. A. Tobin, passed assistant engineer, U. S. Navy, for constructing compound steel armor.

February 15. Upon question of removal of east breakwater, Oswego Harbor, N. Y.

February 15. Upon plan of J. A. Dillon for cheval-de-frise.

March 15. Upon the general subject of the improvement of the Arkansas River.

March 15. Upon project of Mr. Lengsfeld for defense of coasts by aerial navigation.

April 12. Upon the best plan and location for a straight channel for improving Toledo Harbor.

April 12. Upon method of construction for the superstructure for breakwater for harbor of refuge at Milwaukee, proposed by Captain Marshall.

April 18. Upon project of Major Smith for the improvement of Saco River, Me.

April 25. Upon project of Captain Taber for work on the Arkansas River.

April 26. Upon letter of A. Foster Higgins relative to the appointment of a commission for New York Harbor.

May 3. Upon question of supplying the Artillery School at Fort Monroe with certain torpedo material from Willets Point.

May 24. Upon the subject of reservoirs at the headwaters of the Mississippi and the effect of the reservoir discharges on the depth of water at and below Saint Paul, etc.

May 24. Upon location of torpedoes on water route between Lake Erie and Lake Huron.

For the proper performance of the duties of the Board, the following personal examinations by committees were made:

1886, July 7-13, 17-28. Trials of Patrick's controllable auto-mobile torpedo, by Colonels Duane and Abbot and Lieutenant-Colonels Comstock and Houston.

August 17-18. Inspection of Washington Aqueduct tunnel and reservoir, by Colonels Duane and Abbot and Lieutenant-Colonels Comstock and McFarland.

August 25. Inspection of site for proposed bridge over Arthur Kill, by Colonels Duane and Abbot, and Lieutenant-Colonels Comstock, Houston, and McFarland.

November 9-11. Inspection of Buffalo Breakwater, by Colonel Abbot and Lieutenant-Colonel McFarland.

1887, February 21-March 8. Inspection of Arkansas River from Wichita to its mouth, by Colonels Casey and Abbot and Lieutenant-Colonel Comstock.

March 31-April 4. Inspection of Toledo Harbor, by Colonels Casey and Abbot.

June 22. Inspection of works at Sandy Hook, by Colonel Abbot and Lieutenant-Colonel McFarland.

In addition to their duties with the Board of Engineers, the individual members have been otherwise engaged as follows:

Colonel Duane remained president of the Board, and engineer of the third light-house district till October 11, 1886, when he was appointed brigadier-general and Chief of Engineers.

Col. Thos. Lincoln Casey, since November 1, 1886, has been president of the Board. He has continued in charge of the completion of the Washington National Monument; the construction of the State, War, and Navy building; and upon duty as a member of the Light-House Board under the Treasury Department in Washington. He has also served upon a special board for the examination of officers of Engineers for promotion; as member of the Board of Visitors to Engineer School of Application; and in personal inspection of the works of harbor improvement at Buffalo and Dunkirk, N. Y.

Colonel Abbot has continued in charge of certain torpedo experiments, and has served as member of the Board of Visitors to Engineer School of Application; of Board of Officers and Civilians on Coast Defense; and on special boards for the examination of officers of Engineers

for promotion, on trial of pneumatic-dynamite-torpedo gun; on sale of the old site of Fort Brady and for a new site and building thereon; on Portage and Lake Superior Ship Canal; and on bridge across the Mississippi River at Saint Louis.

Colonel Craighill was assigned as member of the Board on the 24th of December, 1886, for such matters of importance as the Chief of Engineers shall designate. In addition to performing the regular duties with which he is charged, he has served on boards for improvement of Cape Fear River, North Carolina; on improvement of the Potomac River on permanent improvement of Delaware River and Bay; on plans and location of proposed bridge across the Great Kanawha River; on Saginaw Bay and Lake Michigan Ship Canal; on construction of a guiding dike by the Pittsburgh and Lake Erie Railroad Company; on bridge over the Ohio River between Covington and Cincinnati, and on plans of locks and dams proposed for Black Warrior River, Alabama.

Lieutenant-Colonel Comstock commanded the Post and Engineer School of Application; was in charge of the fort and of experiments with torpedoes at Willets Point; was supervising engineer of expenditures for torpedoes, etc., at Willets Point up to April 5, 1887; and has served as member of the Mississippi River Commission; of Board of Visitors for Engineer School of Application; of board on improvement of Cape Fear River; on improvement of Potomac River; and on various times on boards for examination of officers of Engineers for promotion; on Illinois and Michigan Canal and proposed Hennepin Canal; on harbor of refuge at Atlantic City, N. J.; and in personal inspection of works of harbor improvement along the coast of Texas. On leave of absence since April 6, 1887.

Lieutenant-Colonel Houston has conducted the various works of river and harbor improvement and of fortifications under his charge, and has served as member of Board of Visitors for Engineer School of Application, and represented the General Government in erection of the pedestal to receive the statue of Liberty, New York Harbor.

Lieutenant-Colonel McFarland, in addition to conducting the works of river and harbor improvement and fortifications with which he is charged, has served as member of the Board of Visitors for the Engineer School of Application; of board for examination of officers of Engineers for promotion; and on harbor of refuge at Atlantic City, N. J.

Major King was assigned as member of the Board April 4, 1887. He has commanded the Battalion of Engineers, and since April 5, 1887, the Post and Engineer School of Application at Willets Point, and in charge of Fort and Engineer Depot at Willets Point; torpedoes for harbor defense, and of experiments with torpedoes. He has also served on boards for plans of locks and dams for improvement of Black Warrior River, Alabama; on reconstruction of Aqueduct Bridge across Potomac River; on plans and estimate for a lock at or near the lower island at Nashville, for improving Cumberland River, Tennessee.

Sea-coast fortifications.—The works upon which the defense of our coasts depends have been so fully discussed in former annual reports of the Chief of Engineers, as well as in the recent report of the Board on Fortifications or other Defenses, appointed by the President under a special act of Congress, 1886, that no further remarks seem to be either necessary or appropriate. From the facts presented in these reports bearing upon the condition of our sea-coast defenses, it must be evident that immediate action is demanded to place them in a proper condition to resist the attacks of an enemy.

From the difference of opinion which exists among certain non-mil-

itary experts as to the character of armor to be used in land defenses it has been argued that the whole subject of sea-coast defense is in an unsettled and tentative condition and that the policy of inaction now existing should still continue. But the facts will not warrant this conclusion, as more than nine-tenths of the armament recommended for our sea-coasts is not to be mounted behind iron protections, but in rear of earthen covers surmounting and shielding the masonry magazines, bomb-proofs, and store-rooms. Particularly is this true of the rifled mortars, which must hereafter play an important part in the defense of our channels and fairways, and there is no reason why the erection of the batteries required for them should be delayed a single month. Neither is armor required for guns mounted on lifts or disappearing carriages; in a word, proper sums may judiciously be expended and much progress toward placing our coasts in a defensive condition may be made, indeed must be made, before the question of armor demands consideration.

Torpedo defense.—Congress having failed to pass a fortification bill at its last session, no funds have been available for torpedo expenditures since July 1, 1886.

Submarine mines, in the present condition of our coast defenses, constitute our chief reliance in case of war. They require time for fabrication and safe positions from which to operate them by electricity. For these reasons appropriations should at once be made (1) to provide submarine mining material, and (2) to construct the casemates, shafts, and galleries needful for the reception of the batteries, electrical apparatus, cables, etc. Last year the annual appropriation failed to pass, and in the two preceding years the funds were nearly all restricted to the item of movable torpedoes, for which there is no urgent necessity. Several of them are now on hand, but their function is a subordinate one, and the purchase of mines should not be interrupted on their account.

At present we have nothing modern to oppose the entrance of hostile fleets into our chief ports, except a few incomplete mines in store at four of them. But submarine mines belong to a complex system, every part of which must be ready or the whole fails. As well expect a chronometer to keep time with one wheel missing as to expect mines to bar a channel without cable-shafts or casemates, and all the other appliances which enter into the system. After years of experiment the details of our system have been perfected; the cost is small; the material when properly stored is imperishable; careful work and time are indispensable in its fabrication; hence there should be no further delay in providing an adequate supply for this defense of our entire coast. The total cost of such a supply was estimated by the Board ordered by Congress to report "at what ports fortifications or other defenses are most urgently required, and the character and kind of defenses best adapted for each, with reference to armament, utilization of torpedoes, mines, or other defensive appliances." Including everything except electric lights, the grand total was \$3,134,000, and this covers the entire coast.

The Board presents the following as its consolidated estimate for the purchase of submarine mining material, etc., for the fiscal year 1888-'89. It will be applied to the ports most urgently requiring fortifications or other defenses:

For the purchase of submarine mining material.....	\$300,000
For constructing casemates, cable galleries, etc.....	1,560,000
For continuing experiments, and for the practical instruction of engineer troops in the details of the service.....	30,000
Making a total of.....	1,890,000

POST OF WILLETS POINT, NEW YORK—ENGINEER SCHOOL OF APPLICATION—BATTALION OF ENGINEERS—ENGINEER DEPOT.

At the close of the fiscal year ending June 30, 1887, the garrison of the post consisted of 21 commissioned officers and 342 enlisted men.

The Quartermaster's Department has commenced the execution of several long-needed improvements, such as the supply of water from the Flushing works, new quarters for officers, and a new hospital.

A telegraph line to Whitestone and a steam-tug have facilitated communication and travel for the post as well as for Fort Schuyler, N. Y.

Improvements recommended are: A new set of barracks; a change in the location of the quartermaster's and commissary store-houses; to clean out and deepen the lagoon and ditch between the post and mainland; the reconstruction of the soldiers' laboratory, destroyed by fire last November; a building to contain the collection of engineer models, and beginning to replace the present temporary buildings by those which will be of more permanent character.

The health of the garrison has been satisfactory (but four deaths in a population of 600, being only 6.7 per thousand), and it is thought will be improved as the sewerage and water are improved as contemplated.

* * * * *

BATTALION OF ENGINEERS.

The legal strength is 752 enlisted men, in five companies; the allowed strength is 450. Companies A, B, and C are stationed at Willets Point; Company E at West Point. A roster of officers and changes is given in the report.

Recruiting has been done by a sergeant detailed at New York rendezvous and by assignment from the general depot at David's Island, New York Harbor. During the year the losses have been 120 and the gains 113.

A detachment of three officers and nine men have performed the usual field-survey duty, and the battalion has been drilled and instructed in the various subjects pertaining to their duties as Engineer troops.

* * * * *

RIVER AND HARBOR IMPROVEMENTS.

The funds with which the works for the improvement of rivers and harbors were prosecuted during the past fiscal year were derived from the appropriations of the act of August 5, 1886, together with such few balances as were on hand from previous appropriations.

A brief statement, taken from the reports of the officers in charge of the several works, is given below, setting forth the condition of each improvement; the extent of work performed during the last fiscal year; the amount of money expended, and, in compliance with the provisions of the river and harbor act of March 2, 1867, estimates of the amount that can be profitably expended during the fiscal year ending June 30, 1889, with the probable cost of completion.

Although, as a general rule, regard is necessarily had in the preparation of these estimates to the more intimate acquaintance of the engineer officers in charge with the requirements of each locality, they have been revised and amended in this office, when deemed advisable, having regard to the most economical administration of the works, and keeping in view the average of the grants by Congress for each work during the past few years.

The reports of the officers in charge of the various improvements will be found in the Appendix. To these reports special reference should be made whenever detailed information is desired concerning the progress and condition of each work.

The examinations and surveys at localities required and provided for in section 7 of the river and harbor act of August 5, 1886, having been distributed and assigned to officers in charge of the several river and harbor districts, such reports thereon as have been received will be found in the Appendix. Of those still in progress the results will be submitted from time to time during the ensuing session of Congress as far as received.

The reports of the special Boards of Engineer Officers provided for in the same river and harbor act to ascertain the value and commercial importance of the works and property of the Green and Barren Navigation Company in Kentucky, and of the Monongahela Navigation Company in Pennsylvania; as also the value and importance and the desirability of the acquisition and improvement of the two water-ways across Keweenaw Point by the way of Portage River and Lake in Michigan; of the Illinois and Michigan Canal and the construction of the proposed Hennepin Canal in Illinois, and of the Sturgeon Bay and Lake Michigan Canal in Wisconsin, were duly transmitted to Congress at its last session, and will also be found in the Appendix to this report under their respective heads.

Examinations were made during the fiscal year of such plans and locations as were submitted by parties interested of bridges proposed to be built over navigable waters under authority of Congress, subject to the approval of the Secretary of War. A brief statement is given below of the action had in such cases. Examinations were also made, whenever requested by committees of Congress, of proposed bills authorizing the construction of bridges upon which the views of the War Department were desired. Of bills so examined during the last session of Congress twenty-four originated in the Senate and forty-three in the House of Representatives.

A statement is also given of the work accomplished in the removal of wrecks obstructing or endangering navigation, general provision for which is made in the river and harbor act of June 14, 1880, enlarged by provisions of the river and harbor act of August 2, 1882.

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OFFICE OF THE CHIEF OF ENGINEERS.

During the fiscal year ending June 30, 1886, the following-named officers were in charge of the several divisions of the Office of the Chief of Engineers:

Lieut. Col. John M. Wilson, colonel, U. S. A., until December 7, 1886, since which date, Maj. Charles W. Raymond.

FIRST DIVISION.—*Fortifications and Surveys relating thereto—Armament of Fortifications—Sites for Engineer Defenses—Boards of Engineers for Defenses.*

SECOND DIVISION.—*Battalion of Engineers—Engineer School of Application and Engineer Depot and Post—Professional Papers and Information—Personnel—Orders—Military Reservations—Land Files.*

Col. John G. Parke, brevet major-general, U. S. A. (Maj. James C. Post relieved Colonel Parke June 30.)

THIRD DIVISION.—*Improvement of Rivers and Harbors and Surveys relating thereto—Bridging Navigable Waters of the United States—Public Buildings and Grounds and Washington Aqueduct.*

Maj. Henry M. Adams. (Capt. Thomas Turtle relieved Major Adams June 30.)

FOURTH DIVISION.—*Accounts for Disbursements—Contracts—Records of Engineer Property and Instruments—Applications for Remittances—Appropriations and Estimates—Blank Forms.*

FIFTH DIVISION.—*Survey of the Lakes—Explorations and Surveys—Reconnaissances—Maps—Instruments—Claims.*

Very respectfully, your obedient servant,

J. C. DUANE,
Brig. Gen., Chief of Engineers.

Hon. WILLIAM C. ENDICOTT,
Secretary of War.

REPORT OF THE CHIEF OF ORDNANCE.

WAR DEPARTMENT, ORDNANCE OFFICE,
Washington, October 15, 1887.

SIR: I have the honor to submit the following report of the principal operations of the Ordnance Department during the fiscal year ended June 30, 1887, with such remarks and recommendations as the interests of this branch of the military service seem to require.

* * * * *

THE ARMAMENT OF FORTIFICATIONS.

As Congress again failed to pass the regular appropriation bill for the armament of fortifications at its last session, the Department has effected but little during the past year in the direction of providing guns, carriages, powders, etc., for coast defense. The limitations also that were imposed on the appropriation for ordnance service have hampered the Department in carrying on the tests of ordnance at the Proving Ground.

The status of the work on the manufacture of the several experimental guns is about as follows:

The 12-inch B. L. rifle, cast-iron, tubed with steel: the casting has been made and is ready to receive the tube; breech mechanism made but not fitted. No work has been done on this gun since the date of my last Annual Report.

The 12-inch B. L. rifle, cast-iron, hooped and tubed with steel, which was nearly completed at the close of the last fiscal year, has since been completed.

The contracts for these two guns, though extended for more than a year, expired by limitation June 30, 1886, and before the guns were completed. The manufacturers must now look to Congress for a special appropriation to reimburse them for any expenditures incurred by them, which were originally covered by their contracts with the Department.

The two 10-inch B. L. wire-wrapped guns, one of steel and the other of cast-iron, remain as stated in my last report, except that the wire winding of the cast-iron gun has been completed.

The 12-inch B. L. mortar under fabrication by contract with the South Boston Iron Works has been completed and sent to the Proving Ground for trial. It is expected that a record for accuracy of fire and endurance will be obtained from this piece early in the coming winter, so that a decision can be reached as to the relative merits of breech-loading and muzzle-loading mortars.

The difference in cost between these two pieces will not be great, and owing to the uncertainty at best of vertical fire the question of accuracy of fire is of paramount importance in selecting a system for adoption for the service. In view of the large numbers of 12-inch mortars required for coast defense, and from the fact that there are several manufacturers who can now supply mortars of the type—cast-iron banded with steel—already tested by the Department with most satisfactory results as regards endurance, I have recommended in my annual estimates the appropriation of \$500,000 for the procurement of 12-inch rifled mortars of a similar type, and to be breech-loading or muzzle-loading according as the trials may show the superiority of one over the other. This sum should procure from fifty to sixty mortars.

In this connection I would invite attention to the importance attaching to the question of a suitable carriage for mortar firing. The carriage used in the trials of the 12-inch M. L. mortar at Sandy Hook was not satisfactory. It did not resist well the downward thrust when the mortar was fired under high angles, and a special adaption of the carriage is also required to relieve the shock on the platform. In the Russian service this difficulty has been very well overcome in the Raskasoff carriage, and still more satisfactorily, it is believed, in the Italian service with the Elswick carriage. I have asked for the necessary funds in my annual estimates to enable the Department to procure and test some different types of mortar carriages, in order to adopt for the service, or at least select as a basis for adoption, that type which our own tests shall prove the best adapted to our mortars and the conditions of our service. This question is one of great urgency and should not be postponed any longer from the want of money to investigate it. The same is equally true as regards the general subject of gun-carriages. Experimental types should at once be procured and tested for the different calibers of steel sea-coast guns, and standard types adopted. More stress is laid on mortar-carriages simply for the reason that it is very probable we shall have mortars ready for mounting before we have guns. But for either class of piece, considerable time will be required to establish the details of construction of a properly constituted carriage.

The forgings for the 10-inch B. L. rifle, steel, have all been accepted. The hoops were made by the Cambria Iron Works and were required to pass the same standards, as to physical qualities, as the hoops for the 8-inch rifle prior to acceptance. The tube, jacket and trunnion hoop for this gun were furnished by Sir Joseph Whitworth & Co, Manchester, England. The first tube and jacket delivered by these manufacturers were rejected after test, as they fell below the prescribed and guaranteed physical qualities, and were returned to England. The second set of forgings was delivered during the past year and tested

*Since writing the above this B. L. mortar has been fired 32 rounds, in working up a suitable powder with a charge of 65 pounds, Sphero-Hexagonal powder, and a shell of 625 pounds; a velocity of 1,037 feet was obtained with a pressure of 27,000 pounds per square inch of chamber; under these conditions of loading the measured range, when the mortar was fired at an elevation of 45°, was 9,385 yards, or 5½ miles.

with the following results, on tangential specimens of three inches working length, and .564 of an inch diameter, viz :

10-INCH RIFLE TUBE—TENSILE TESTS.

	Elastic limit.	Tensile strength.	Elongation after rupture.
Breach end:	<i>Pounds.</i>	<i>Pounds</i>	<i>Per cent.</i>
Outside	47,000	92,880	18.7
Middle	43,000	91,620	21.7
Inside	43,000	92,480	18.7
Means	44,333	92,326	19.7
Muzzle end:			
Outside	43,000	79,440	22.7
Middle	38,500	72,580	24.2
Inside	45,000	79,520	20.7
Means	42,166	77,180	22.5

10-INCH RIFLE JACKET—TENSILE TESTS.

Breach end:			
Outside	45,000	93,080	20.0
Middle	39,000	88,640	18.3
Inside	37,000	86,720	20.7
Means	40,333	89,480	20.0
Muzzle end:			
Outside	48,000	84,800	22.7
Middle	46,500	87,100	22.3
Inside	50,000	91,880	20.0
Means	48,166	87,926	22.0

The trunnion hoop manufactured by Whitworth, and accepted last year, showed the following qualities on tangential specimens of 6 inches working length and .564 of an inch diameter :

10-INCH RIFLE TRUNNION HOOP—TENSILE TESTS.

	Elastic limit.	Tensile strength.	Elongation after rupture.
Outside	<i>Pounds.</i>	<i>Pounds</i>	<i>Per cent.</i>
Middle	42,000	85,440	17.3
Middle	39,000	81,720	17.9
Inside	39,000	82,960	13.3
Means	40,000	83,373	16.1

The forgings for the breech mechanism of this gun have been delivered They were manufactured by the Midvale Steel Company.

The forgings for the 8-inch breech-loading rifle which were being made for the Department by the Midvale Steel Company have been completed and delivered The tube and jacket forgings for this gun being the largest as yet made, or attempted, in this country, the following results of the tensile tests made on tangential specimens of 3 inches working



length and .564 of an inch diameter, though published in part in my last report are here presented in full as possessing much interest:

8-INCH RIFLE TUBE—TENSILE TESTS.

	Elastic limit.	Tensile strength.	Elongation after rupture.
	<i>Pounds.</i>	<i>Pounds.</i>	<i>Per cent.</i>
Breech end:			
Outside	51,000	90,400	20.00
Middle	46,000	86,200	21.00
Inside	49,000	86,840	23.33
Means	48,667	87,813	21.44
Muzzle end:			
Outside	52,000	94,000	19.67
Middle	50,000	91,600	21.33
Inside	53,000	94,320	17.00
Means	51,667	93,333	19.33

8-INCH RIFLE JACKET—TENSILE TESTS.

Breech end:			
Outside	50,000	101,000	10.0
Middle	43,000	89,100	20.0
Inside	45,000	91,240	22.3
Means	46,000	93,780	17.4
Muzzle end:			
Outside	47,000	94,360	15.7
Middle	46,000	92,920	20.0
Inside	49,000	97,600	19.0
Means	47,333	94,960	18.2

The results of the tests of the forged trunnion hoop for the 8-inch gun on tangential specimens of 6-inch working length and .564 of an inch diameter were as follows, viz:

8-INCH RIFLE TRUNNION HOOP—TENSILE TESTS.

	Elastic limit.	Tensile strength.	Elongation after rupture.
	<i>Pounds.</i>	<i>Pounds.</i>	<i>Per cent.</i>
Outside	55,000	105,920	13.17
Inside	66,000	112,000	13.00
Middle	54,000	105,640	14.67
Do	54,000	105,120	12.83
Do	60,000	110,000	13.67
Do	60,000	110,080	14.17
Do	54,000	105,200	12.83
Do	55,000	107,800	12.83
Means	57,375	107,707	13.64

The cylindrical hoops for this gun, which is to be hooped throughout from breech to muzzle, as well as the trunnion hoop, were also manufactured by the Midvale Steel Company, and fulfilled the tests prescribed for their acceptance, viz:

Elastic limit not less than 55,000 pounds.

Tensile strength not less than 100,000 pounds.

Elongation after rupture, from tangential specimens of 6 inches working length, not less than 12 per cent., and of 3 inches working length not less than 15 per cent.

The breech mechanism forgings for this gun have been accepted and delivered.

In the manufacture of these 8-inch rifle forgings, a satisfactory jacket was only obtained after repeated failures, and repeated retreatment of the metal, owing to the inadequacy of the present plant at the Midvale Steel Works for such large work. But the manufacturers, it would seem, triumphed at last over their limitations,—a thorough knowledge of their art enabling them to attain a success in spite of inadequate facilities. Another very encouraging sign, in the development of the steel industry, is to be observed in the early success of the Cambria Iron Works. This establishment undertook, as its first venture in Ordnance work, the production of the forged hoops for a 10-inch steel rifle, and it fully complied with the terms of its contract, notwithstanding the very high standard of excellence required under the specifications. The forgings for a 7-inch howitzer, including the tube, jacket, and forged trunnion hoop, were next essayed, and the prescribed qualities for the metal, see page 23 of my last report, were also fully attained. The Department has established high standards for the quality of gun steel, but experience has proved the entire ability of our steel makers to produce, without too great difficulty, the required metal; while the ordeal of firing has demonstrated the trustworthy character of the guns made from it. It is then reasonable to expect that with still larger experience, increased manufacturing facilities, and with a sufficiently increased demand to invite a more generous competition that both the difficulties and the cost of production will be considerably reduced. We have already an instance of this in the last contract for 3.2-inch gun forgings; the actual standard for quality was somewhat higher than in the preceding contract, and yet for the same total number and kind of forgings the cost was very materially lowered. In view of the success thus far attained by our steel makers it is apparent that all that is now required to make it feasible to produce the largest gun forgings of suitable quality in this country is the assurance that the outlay for necessary plant will prove remunerative. And it is believed to be to the vital interest of the whole country that such liberal appropriations be made by Congress from year to year, until our present utter destitution as to modern guns be relieved, as shall furnish the substantial encouragement and aid that our steel industry demands. As a step in this direction I have asked in my annual estimate for an appropriation of \$1,500,000 for the procurement of forgings for 8-inch and 10-inch B. L. steel guns. This sum should procure the steel for about fifty 8-inch guns and about forty 10-inch guns, and to allow the necessary time to erect additional plant this appropriation should be made available until expended.

It is not necessary to enter into a discussion of the necessity for sea-coast armament, nor of the possibility of future disbandment of armies and the settlement of international controversies with the pen instead of the sword. What may be in the near or distant future in this regard the most astute statesman can not divine. Our dealings, however, are with the immediate present, and if the recurrence of wars are likely to follow ample preparation, Europe in arms would seem to indicate that the days of peaceful arbitration have not yet been reached. It can hardly be recommended that while waiting for this future possibility, our shores should continue unguarded and at the mercy of the most insignificant belligerent. Rams and torpedoes and dynamite guns are powerful auxiliaries in harbor defense, but the war conditions yet obtaining will not dispense with the hard hammering of heavy shot

ing with high velocity, because these auxiliaries themselves need protection and of a most perfect character. The dynamite guns with a limited range can not be left to the mercy of the much longer-reaching guns of the enemy's ships. The attacking ships must be kept at a distance by heavy guns and long-range mortars,—the comparatively low cost of mortars enabling us to compensate by numbers for any lack of accuracy of fire. As a projectile force gunpowder yet stands supreme. It strikes its terrific blow at long distances; its arm reaches many miles: it plants its blows with unerring certainty. We can not dispense with such a force, so readily handled, so thoroughly understood. Heavy cannon are therefore a necessity, and must be provided, and our unprotected coasts demand that they be provided speedily. These necessities also demand that they be of the most approved quality; cannon of steel which have been adopted by the world after most thorough and satisfactory experiment and trial; cannon that will place this nation on an equality with the most powerful. It will cost money; but not more than the loss to the cities of New York and Brooklyn from one day's bombardment. All this and more is known to Congress and the country. Reports of boards and committees, reports of official experts, the writings in the public press, individual views, all have kept this important matter before the people, and the responsibility for weal or woe, for success or disaster, must remain with the people. At this time no half measures will do. Congress should decide, and decide at once. Another year ought not to pass without a settled and well-defined policy in regard to the national defense. Individual interests must yield to the public good.

It is for Congress to inaugurate this great work of coast armament. The positive and practical experience of the Midvale Works and the Cambria Works is to the extent of their facilities equal to that of foreign establishments, and these results are in a large degree, the outcome of high standards, close specifications and most rigid supervision and inspection, enforced by this Department. I venture the opinion that such important work can not be intrusted to better or more skillful hands than to the officers of the Ordnance Department of the Army.

Pneumatic gun-carriages.

Carriages for heavy cannon present one of the most important and most difficult problems to the ordnance officer. The best mechanical minds here and abroad have labored with most encouraging success to solve the problem, so as to satisfy all conditions of emplacement, all weights of heavy cannon, all forces generated by explosives. With the increase in size and weight of cannon man-power has had to give way to steam, compressed air, hydraulic appliances, in the handling and management of such heavy masses. Types of the best carriages known here or elsewhere should therefore be provided, as aids to the study and development of this vital necessity. A trial of the improved Powlett carriage should be authorized by an appropriation. It was first taken up by this Department, and its favorable action has induced further and more extended trial by our Navy. The conditions of use in the Army and Navy service are so different, that a further trial by us is in the interest of the public service.

The dynamite torpedo gun.

This modern ballistic engine has been so far perfected as to render it practicable to project to a considerable distance, by means of compressed

air, large charges of high explosives with a safety, certainty, and accuracy of fire, which render it a source of great danger to the decks of hostile ships. More than this, an electric fuze, capable of being actuated by contact with salt water, has been devised and tested with promising success, which should more than double the value of the gun as a weapon for coast defense. If, as it is claimed, charges of 500 pounds of explosive gelatine or dynamite can be projected to a distance of from 2 to 3 miles, and detonated after entering the water, with a fair degree of probability that explosion will occur immediately under or near the hull of a ship, below the armor protection, the most destructive effects are to be expected—as ships of war are at present constructed. The result is much the same, though with perhaps less certainty of action, as that sought to be attained in defending a channel by means of fixed mines, but with the obvious advantage of being able to shift at will, as it were, the location of the “torpedo field” to any point, within range, taken up by the enemy’s ship. The latter is thus placed at the disadvantage of always being compelled to cruise over an area beset with submarine mines so long as it is within range of the gun. It is not intended, by implication even, that fixed mines are to be abandoned, but on the contrary that the two systems supplement each other into a vastly more powerful combination of explosives, and become a most essential adjunct to the heavy guns of great range and power, which are of necessity, as armor-piercing weapons, the basis of all armament for coast defense. I would recommend the purchase of one of these guns, say of 15-inch caliber, for exhaustive trials of gun and projectile, with the object of determining the full extent of their capacity and fitness for coast defense.

A Board of Officers was appointed January 26, 1886, by the Secretary of War for the purpose of witnessing trials with the dynamite torpedo gun, which for some months had been under experiment at Fort Hamilton under the auspices of the War Department, and to report on its merits and suitability for the military service. But the company interested in this gun failed to make the necessary arrangements for the proposed trials and the board was ultimately dissolved without making any report.

The Stevens dynamite shell.

During the year further experiments have been made at the Ordnance Proving Ground in firing shell charged with high explosives from ordinary cannon by means of gunpowder. Among the devices of this class tested, and meriting favorable mention, is a shell invented by Mr. B. D. Stevens of Burlington, Vt. In the experiments with this shell, it was charged with explosive gelatine and repeatedly fired without premature explosion, from a 7-inch M. L. rifle using the battering charge for that gun. The results obtained are deemed of sufficient promise to justify a more extended trial, and the firings will be continued at an early day.

* * * * *

TESTS OF ORDNANCE.

No further firings have been made during the year with the 12-inch B. L. rifle, cast-iron, or the 12-inch M. L. mortar. With regard to the first piece, after being fired 137 rounds with a maximum charge of 265 pounds powder and a projectile of 800 pounds—the mean pressure for 100 rounds being about 28,000 pounds, or 12½ tons—the chamber and rifled bore became so badly eroded that the board for testing rifled cannon reported it as in an unsafe condition for further firing, although the

board thought that its life would still be prolonged by the introduction of a steel lining. The Department had no funds for that purpose, and the board deemed it best to suspend action in reference to this gun until after the trial of the new 12-inch B. L. rifle, cast-iron, which is provided with a steel tube.—See Appendix 10, Report of the Chief of Ordnance, 1886. The firings of the 12-inch M. L. mortar had proceeded beyond 400 rounds, establishing beyond doubt the ample resistance of the piece, but the board for testing rifled cannon were not satisfied with the accuracy of fire and decided to suspend firing until the new 12-inch B. L. mortar could be tested in comparison.

The 8-inch B. L. rifle, steel.

As stated in my last report the 8-inch B. L. rifle, steel, after being fired 24 rounds, was returned to the West Point Foundry to have the chase hooping extended to the muzzle, a distance of some 90 inches. It was noticed after the exterior of the chase had been turned off for the reception of the hoops, that the previously observed enlargement of the bore had undergone a very considerable contraction, thus confirming the view held by the Department, that, through imperfect annealing, the initial strains due to tempering had not been removed. As the tube for this gun was obtained from abroad, and the manufacture did not take place under the supervision of the Department, its acceptance could be conditioned only on the mechanical qualities of the test specimens and the general good repute of the manufacturers. The actual condition therefore of the tube, as developed by the firings, could scarcely have been guarded against. After the hoops had been put on the chase, the remaining enlargement of the bore wholly disappeared, giving place, as was designed, to a light compression. Before returning the gun to the Proving Ground a slight modification was made in the breech mechanism to overcome the sticking of the block after firing, and which in the subsequent firings has worked very satisfactorily.

In resuming the firings with this gun, some new samples of brown prismatic powder, made by the Messrs. Du Pont, were employed, and further trials were made with increased charges of the German brown powder. The results obtained in the previous firings with a charge of 100 pounds Du Pont's P. A. brown prismatic powder and a 286-pound projectile were a velocity of 1,820 feet and a pressure of 35,450 pounds per square inch—see page 14 of my last annual report—the corresponding energy of the shot at the muzzle being 6,567 foot-tons. With the increased charge of the new Du Pont powder and the German powder, the following results were obtained:

Kind of powder.	Weight of charge.	Weight of projectile.	Density of loading.	Muzzle velocity.	Pressure per square inch of chamber.	Muzzle energy.
	<i>Pounds.</i>	<i>Pounds.</i>		<i>Feet.</i>	<i>Pounds.</i>	<i>Ft.-tons.</i>
Du Pont's P. N. brown prismatic.	110	289	0.98	1,878	36,000	7,056
German brown prismatic	110	289	0.98	1,875	35,900	7,043
	116	302	0.98	1,887	37,000	7,219

These results show a gain in energy of from 476 to 652 foot-tons over that obtained with a charge of 100 pounds of powder and a projectile of 286 pounds while the pressures are deemed quite safe. It was thought, however, that the density of loading might safely be increased to unity,

as has been done abroad, and a still better ballistic result thus be obtained. The Messrs. Du Pont were accordingly requested to prepare samples for test, which might admit of using a charge of about 113 pounds, and which should impart to a projectile of 300 pounds weight a velocity of 1,865 feet without exceeding a pressure of about 36,000 pounds per square inch. In their endeavors to produce a powder such as was desired, or even to reproduce powders previously made by them, the manufacturers have not been altogether successful. After failing in several attempts to make a sample that would give the desired results, an effort was made to reproduce the P. N. sample but without a very close agreement in results; it was then determined to try a type of powder similar in composition and manufacture to that used in the test of the 12-inch B. L. rifle, cast-iron, and Q. W. A. was produced; but failing to duplicate this sample, the manufacturers returned to a powder of the P. N. type, and made a further sample for trial. It is believed that the latest efforts of the powder-makers are successful; the results obtained with P. N. powder, using a charge of 110 pounds are practically reproduced with P. N. A. powder, using a charge of 113 pounds. The results obtained with some of the various samples tested are as follows:

Kind of powder.	Charge.	Projectile.	Density of loading.	Muzzle velocity.	Pressure per square inch of chamber.	Muzzle energy.
Du Pont's brown prismatic:						
	<i>Pounds.</i>	<i>Pounds.</i>		<i>Feet.</i>	<i>Pounds.</i>	<i>Foot-tons.</i>
Q. M.	113	300	1.00	1,852	37,640	7,133
Q. U.	110	300	0.98	1,877	40,700	7,333
Q. Y.	105	289	0.935	1,891	{ 37,000 to 40,000 }	{ 7,164 }
*Q. Y. A.	95	289	0.846	1,807	36,600	6,542
Q. W.	105	2-9	0.935	1,879	37,500	7,073
Q. W. A.	105	289	0.935	1,877	37,000	7,058
P. N. A.	113	301	1.00	1,852	35,500	7,157

These trials have consumed a great deal of time, and have delayed the test of the gun for months. The abnormal behavior of the crusher gauges also under the heavy pressures developed with some of the samples has given trouble and proved a further source of delay. The manufacturers are however now proceeding with the manufacture of a quantity of P. N. A. powder sufficient for the test of the gun. As the new powder is a little slower burning than the original lot of P. N. it is expected, by using a 300-pound shot, to realize a muzzle energy of 7,200 foot-tons, with a pressure in the chamber of about 37,000 pounds per square inch. The tests will be resumed early in November under the supervision of the Board for Testing Rifled Cannon and Projectiles, in accordance with the act of July 5, 1884.

Thus far this 8 inch B. L. rifle, steel, has been fired 102 rounds, of which number 2 rounds were with 65-pound charges, 12 rounds with 85-pound charges, 2 rounds with 95-pound charges and 84 rounds with charges of from 100 to 113 pounds weight. The weights of projectile used have been 7 rounds with 182-pound shot, 4 rounds with 235-pound shot, 1 round with 250-pound shot, and 88 rounds with shot of from 286 to 302 pounds weight. In most of these firings the gun has been

* With the moderate charge of 95 pounds of Q. Y. A. powder and a projectile of 289 pounds the measured range of the 8-inch rifle, when under an elevation of $17\frac{1}{4}$ degrees, was 10,698 yards, or 6 miles and 138 yards.

subjected to pressures of from 33,000 to 37,000 pounds per square inch of chamber, and in several rounds to pressures exceeding 40,000 pounds or 18 tons per square inch of chamber. A careful examination of the bore after the one hundredth round showed no appreciable enlargement, except the usual enlargement near the bottom of rifling, due to the forcing of the projectile, while as regards erosion the forward part of chamber and commencement of the rifling, the parts first tested, show no traces whatever, and the condition of the gun is apparently perfect. In this connection, it may be stated that in the tests with the 12-inch B. L. rifle, cast-iron, in which a relatively much larger charge and projectile were employed, and with powder pressures that were generally under 30,000 pounds, the average for 100 rounds being only 28,000 pounds, erosions had commenced at the fiftieth round, which became very pronounced at the ninety-sixth round.

The ballistic results from this 8-inch gun, that is to say, the energy developed in the projectile, exceed the published results of any gun of the caliber extant. As regards accuracy, so far as that has been tested, it was ascertained, as stated in my last report, that for a range of 3,000 yards or nearly $1\frac{3}{4}$ miles, the shooting was as follows:

Target 30 by 40 feet—range 3,000 yards.

	Feet.
Mean vertical deviation from center of impact	1.90
Mean horizontal deviation from center of impact	1.56
Mean deviation from center of impact	2.46

or the centers of all the shot-holes were contained within a circle of $6\frac{1}{2}$ feet diameter.

* * * * *

S. V. BENÉT,
Brigadier-General, Chief of Ordnance.

REPORT OF PUBLICATION OF WAR RECORDS.

WAR DEPARTMENT,
PUBLICATION OFFICE WAR RECORDS,
Washington, D. C., October 5, 1887.

SIR: I have the honor to submit the following exhibit of the work of this office since the last annual report, dated October 9, 1886:

The work is still in the first series. Three books have been issued and distributed, viz: Volume XVII, Part 2; Volume XVIII; Volume XII, Supplement to the record of the Fitz John Porter Court-Martial.

Volume XIX (two books), Parts 1 and 2, complete with index, are in the hands of the printer awaiting publication and distribution; Volume XX, with index, is nearly finished, and will soon be forwarded for publication; Volume XXVI, Parts 1 and 2, have been stereotyped, and Volume XXVII, Part 1, is now in the hands of the printer for the same purpose.

The manuscript of Volumes XXXIV, XXXV, and XXXVIII is arranged for the printer; that of Volumes XXX, XXXVI, and XXXVII being still incomplete.

The expenditures for printing, binding, etc., since October 9, 1887 have been as follows:

For composition and stereotyping of volumes now completed:

Volume XII, Supplement—Fitz John Porter Court-Martial Record....	\$550.00
Volume XVIII.....	2,073.00
(The same for volumes still in printer's hands.)	
Volume XXIV, Part 3.....	1,411.00
Volume XXV, Part 1.....	2,603.00
Part 2.....	1,888.00
Volume XXVI, Part 1.....	2,106.00
	<hr/> 10,643.00

For the completion of—

Volume XII, Supplement—Fitz John Porter Court-Martial Record....	3,143.00
Volume XVII, Part 2.....	6,330.00
	<hr/> 9,463.00

Total expenditures.....20,112.00

Balance available from last report.....33,484.00

Appropriation for fiscal year ending June 30, 1888.....36,000.00

Total.....69,484.00

Expenditures.....20,112.00

Balance.....49,371.77

From this amount there should be deducted outstanding debts for printing, binding, etc., bills not rendered, but estimated approximately, as follows:

For completing—

Volume XVIII, 1,207 pages.....	\$8,119.49
Volume XIX, Part 1, 1,215 pages.....	8,173.30
For composition, stereotyping, etc., of—	
Volume XXVI, Part 2.....	1,057.74

Total outstanding debts.....17,350.53

Leaving actually available October 5, 1887.....32,021.24

Expenditures for salaries and rent during the fiscal year ending June 30, 1887, have been as follows:

Salaries.....\$26,935.59

Rent.....1,200.00

Fuel, lights, stationery, and all other incidental expenses have been provided by the supply division of the War Department.

H. M. LAZELLE,
Lieutenant-Colonel Twenty-third Infantry,
U. S. Army, in charge.

The SECRETARY OF WAR.

REPORT
OF
THE SECRETARY OF THE NAVY.

NAVY DEPARTMENT,
Washington, December 6, 1887.

To the President :

It is with much satisfaction that the Department is able to report upon the occurrences of the past year. Many difficulties have stood in the way of the creation of a creditable new navy. During the last year many of these have been removed, and if it is the will of the country that we should be possessed of a navy able to maintain, when required, the honor and dignity of the Government, it can now readily be created.

When the last annual report of the Department was made this country lacked three manufactories necessary to the construction and armament of a modern war vessel, viz, that of steel forgings for the heavier guns, that of armor for iron-clad vessels, and that of the secondary batteries (machine and rapid-fire guns), an essential portion of the armament. Now all three manufactories are in process of construction under contracts with the Department.

It was a fatal mistake for this country to be dependent upon any other nation for its implements of war. Aside from all questions of national dignity and pride, such implements are contraband in time of war, and could not then be procured from abroad, while the time required to prepare a plant would make it impossible to extemporize a manufactory for the occasion, and yet, without armor, and without higher-powered guns, in the present state of the art no respectable contest could be carried on, and the country would be substantially defenseless.

The ease with which these difficulties were finally solved was most surprising, and furnished another and most notable illustration of enterprise and courage of our business class.

Two special boards, the Gun Foundry Board, reporting in 1884, and the Board on Fortifications and other defenses, reporting in January 1886, and two special committees of Congress, reporting also in 1886, had thoroughly investigated the problem of how to bring about the domesticating of these industries, and had substantially agreed in their recommendations. But the large public expenditures contemplated, in the neighborhood of \$35,000,000, served to delay Congressional action, and the final adjournment of the last Congress without any provision for our coast defenses seemed to have postponed indefinitely the desired result.

The Navy Department had, in the summer of 1886, as an experiment consolidated in one advertisement all of its requirements for armor and gun-steel for ships of war then authorized, stipulating that it should be of domestic manufacture and giving an average of two and a half years in which to produce and deliver it, which covered the time necessary for the procurement of a plant. A period of about seven months was allowed for the submission of bids, in order to afford an opportunity for full investigation by expected bidders. The Department also opened correspondence upon the subject with the principal steel manufacturers of the country. The interest awakened by the discussion and investigations already had was stimulated somewhat by the influence of the Department, and resulted, when the bids were opened, in a contract with the Bethlehem Iron Company, under which a plant for the production of armor and gun-steel is being erected at Bethlehem, Pa., second to none in the world, it is believed. (Appendix, p. 459.) The efforts of the Department were generously seconded by the Naval Appropriations Committees of the two Houses, the sum of \$4,000,000 having been inserted in the appropriation acts for the purpose indicated.

The bids were opened on the 22d day of March last, and, coming at a time when the failure of Congress to make provision for the country's defense was being generally regretted, caused a feeling of quite universal congratulation throughout the country. It marked a most important step in the progress toward national independence, most sincerely desired, it is believed, by the larger portion of our people.

The policy which had thus been so successfully pursued in the matter of armor and gun-steel was also followed in the matter of secondary batteries, and with a like result.

The Department declined to make any purchases of the Hotchkiss arms, previously adopted for our secondary batteries, except upon condition that a manufactory was established in this country, and, by the accumulation of orders, the inducement became in time sufficient to secure the desired result.

It is also gratifying to report that the representatives of the Hotchkiss company have ascertained that with the superior tools in use in this country in the manufacture of arms, the secondary batteries of ships can be made here and sold at prices less than we have paid for their foreign-made arms, and as low as they are produced there for any foreign Government. And such are the prices made to us by the company

In like manner the contracts for armor and gun steel are made at prices within 25 per cent. of the European price for the similar article, not greater than the difference in labor between the two countries, not withstanding the heavy outlay for plant (estimated at \$2,500,000) necessary to be made to undertake the contract.

These gratifying results have been greatly stimulated by the ship-building interest of the country. My attention was early called to the fact that our ship-builders were shut out from building for any foreign Government by reason of the fact that neither armor nor gun steel nor secondary batteries could be supplied in this country. The construction of war-vessels for other countries has been a large industry for the ship-builders of Great Britain.

It is believed that our private ship-yards can produce war ships equal and perhaps superior to those produced elsewhere when these industries shall have been established. The ship-builders have, therefore, zealously co-operated with the Department in stimulating and furthering this object.

It is notable in this connection that the efforts of the Department to raise the standard of the material for the ships has resulted in a class of material believed to be superior to that ever produced for any similar purpose.

Some slight delay in construction of the cruisers under contract has doubtless resulted, and much jarring and unpleasantness at first; but, at the present time, all concur that the quality of the steel has been improved and that more reliable processes have come to light, and all dissatisfaction has disappeared. Especially has the steel made upon the Pacific coast been notable for its quality, and the construction of the cruisers there may mark an important event in its industrial history.

THE NEW NAVY.

All of the unarmored vessels heretofore authorized by Congress are in course of construction. The following table embraces the necessary information concerning them. It includes those already completed.

UNARMORED

Name.	Type.	Keel laid.	Where built.	Condition.	Dimensions.			Displacement.	Collective power or speed in each case.
					Length between perpendiculars.	Beam.	Mean draught.		
Dolphin	Dispatch vessel.	1883	Roach's	Commissioned ..	<i>Feet.</i> 249	<i>Feet.</i> 32	<i>Feet.</i> 14½	<i>Tons.</i> 1,485	*2,240
Boston	Protected cruiser.	1883	do	do	270	43	17	3,189	*3,780
Atlanta	do	1883	do	do	270	42	17	3,189	*3,356
Chicago	do	1883	do	Awaiting trial ..	315	48½	19	4,500	15,000
Charleston	Protected cruiser.	1887	Union Iron Works.	Building	300	46	18½	3,730	17,000
Baltimore	do	1887	Cramp's	do	315	48½	19½	4,413	,000
Gun-boat No. 1...	Cruiser ..	1887	do	do	230	36	14	1,700	3,000
Gun-boat No. 2...	do	1887	Columbian Iron Works, Baltimore.	do	175	31	11½	890	11,100
Newark	Protected cruiser.	1887	Cramp's	do	310	49½	18½	4,083	8,500
Cruiser No. 4 ..	do	1887	do	do	315	48½	19½	4,324	(§)
Cruiser No. 5...	do	1887	Union Iron Works.	do	310	49½	18½	4,083	(§)
Gun-boat No. 3...	Cruiser ..	1887	N. F. Palmer, jr. & Co., Chester, Pa.	do	230	36	14	1,700	3,400
Gun-boat No. 4...	do	1887	do	do	230	36	14	1,700	3,400
Dynamite cruiser	do	1887	Cramp's	Building	246½	26½	9	725	(||)
1st-class torpedo boat	do		Herreshoff's ..	Awarded	138	14½	3½	99	(¶)

* Indicated horse-power on trial.

† Guaranteed.

‡ Guaranteed. Indicated horse-power.

§ Guaranteed speed, 10 knots.

|| Guaranteed speed, 20 knots.

¶ Estimated by bidder, 23 knots.

STEEL VESSELS.

Type of engines.	Weight of machinery, etc.	Batteries.		Total contract cost of hull and machin- ery.	Date of act authorizing building.	Contract executed.	Time to complete from date of contract.
		Main.	Secondary.				
Single screw ver- tical compound.	Tons. 411	1 6" B. L. R.	2 Gatlings 2 6-pdrs. 4 47" R. C.	\$315,000	Aug. 5, 1882 Mar. 2, 1883	July 23, 1883	Mos.
Single screw hori- zontal com- pound.	698	2 8" B. L. R.. 6 6" B. L. R.	2 Gatlings 2 6-pdrs. 2 3-pdrs. 2 1-pdr. 2 47" R. C. 2 37" R. C.	619,000	.....do .....	.....do .....	.....
....do.....	608	Same as Bos- ton.	Same as Bos- ton.	617,000	.....do .....	.....do .....	.....
Twin screw, com- pound overhead beam.	930	4 8" B. L. R.. 8 6" B. L. R.. 2 5" B. L. R.	3 Gatlings 2 6-pdrs. 2 1-pdrs. 4 47" R. C. 2 37" R. C.	880,000	.....do	July 26, 1883	.....
Twin-screw hori- zontal compound.	710	2 8" B. L. R ... 6 6" B. L. R.	2 Gatlings 4 6-pdrs. 2 3-pdrs. 1 1-pdr. 4 37" R. C.	1,017,000	Mar. 2, 1885	Dec. 28, 1886	18
Twin-screw hori- zontal triple ex- pansion.	900	4 8" B. L. R ... 6 6" B. L. R.	2 Gatlings 4 6-pdrs. 2 3-pdrs. 1 1-pdr. 4 37" R. C.	1,325,000	Aug. 3, 1886	Dec. 17, 1886	18
do.....	320	6 6" B. L. R.	2 Gatlings 2 6-pdrs. 2 3-pdrs. 1 1-pdr. 2 37" R. C.	455,000	Mar. 13, 1885	Jan. 31, 1887	12
Single screw hori- zontal compound.	130	4 6" B. L. R.	2 Gatlings 2 3-pdrs. 1 1-pdr. 2 37" R. C.	247,000	.....do	Dec. 22, 1886	12
Twin-screw hori- zontal triple ex- pansion.	850	12 6" B. L. R ..	2 Gatlings 4 6-pdrs. 2 3-pdrs. 1 1-pdr. 4 37" R. C.	1,248,000	Mar. 3, 1885 Mar. 3, 1886	Oct. 27, 1887	24
....do	900	....do	Same as Balti- more.	1,350,000	Mar. 3, 1887	Oct. 27, 1887	24
....do.....	900	12 6" B. L. R..	....do	1,428,000	.....do	Oct. 26, 1887	24
....do.....	340	Same as No. 1.	Same as No. 1.	490,000	.....do	Nov. 15, 1887	18
....do	340	....do .....	....do	490,000	.....do	Nov. 15, 1887	18
Twin screw, verti- cal, triple expan- sion.	247	3 dynamite guns, 10 1/2" caliber.	2 Gatlings. 2 3-pdrs. 1 1-pdr. 2 37" R. C.	Includ- ing dy- namite guns, etc. 350,000	Aug. 3, 1886	Feb. 11, 1887	12
Twin screw, verti- cal, quadruple expansion.	47	4 automobile torpedoes.	2 3-pdrs.	82,750	Aug. 2, 1886		

The most notable fact connected with the work of the last year concerns cruisers Nos. 4 and 5, in the foregoing table. Congress by the legislation of last winter put to the test the ability of the Department and of American ship-builders to construct cruisers having the highest standards. The law provided as follows;

The contracts for the construction of said cruisers shall contain provisions to the effect that the contractor guaranties that when completed and tested for speed, under conditions to be prescribed by the Navy Department, the vessel shall exhibit a maximum speed of at least nineteen knots per hour; and for every quarter knot of speed so exhibited above said guaranty the contractor shall receive a premium, over and above his contract price, of fifty thousand dollars, and for every quarter knot that said vessel fails of reaching said guarantied speed there shall be deducted from the contract price the sum of fifty thousand dollars.

The requirements of the law have been observed and these cruisers are now under contract with adequate security for the attainment of the results guarantied. American ship-builders have in these contracts placed themselves in line with the foremost in the world.

These results were extremely gratifying to the Department. Both bidders for these ships bid to reach the speed upon the plans submitted by the Department. The plans purchased abroad constituted the basis of the plans submitted to competition, but by the modifications made and being made they are now beyond identification. Thus the result will be as was originally contemplated, viz, adopting at the outset the best known methods, native invention will enable us to improve upon them and to keep pace with the most forward.

The following were the bids received for the contracts awarded during the past year. A star marks the successful bid.

Tabular statement of proposals received and opened August 8, 1887, for the construction of the cruiser Newark, authorized by the acts of March 3, 1885, and March 3, 1887, and of the two cruisers and the two gun-boats authorized by the act of March 3, 1887.

CRUISER NO. 1 (NEWARK).

*The William Cramp & Sons Ship and Engine Building Company, Philadelphia, Pa. (hull to be constructed according to the Department's plans and specifications; machinery to be constructed on bidder's plans and specifications)\$1,248,000

CRUISER NO. 4.

The William Cramp & Sons Ship and Engine Building Company, Philadelphia, Pa. (hull and machinery to be constructed according to Department's plans and specifications) 1,410,000
 Same company (hull and machinery to be constructed according to bidder's plans and specifications) 1,325,000
 *Same company (hull and machinery to be constructed according to bidder's plans and specifications) 1,350,000
 Same company (hull to be constructed according to Department's plans and specifications; machinery according to bidder's plans and specifications) 1,405,000
 The Union Iron Works, iron-steamship builders, San Francisco, Cal. (hull and machinery to be constructed according to Department's plans and specifications) 1,428,000

CRUISER No. 5.

The William Cramp & Sons Ship and Engine Building Company, Philadelphia, Pa. (hull and machinery to be constructed according to Department's plans and specifications)	\$1,410,000
do company (hull and machinery to be constructed according to bidder's plans and specifications)	1,325,000
do company (hull and machinery to be constructed according to bidder's plans and specifications)	1,350,000
do company (hull to be constructed according to Department's plans and specifications, machinery according to bidder's plans and specifications)	1,405,000
The Union Iron Works, iron steamship builders, San Francisco, Cal. (hull and machinery to be constructed according to Department's plans and specifications)	1,428,000
Award directed by the President, under power conferred by the act of March 3, 1887. (Appendix A., p. xlv.)	

GUN-BOAT No. 3.

The William Cramp & Sons Ship and Engine Building Company, Philadelphia, Pa. (hull and machinery to be constructed according to Department's plans and specifications)	495,000
H. F. Palmer, jr., & Co., New York, N. Y. (hull and machinery to be constructed according to Department's plans and specifications)	490,000

GUN-BOAT No. 4.

The William Cramp & Sons Ship and Engine Building Company, Philadelphia Pa. (hull and machinery to be constructed according to Department's plans and specifications)	\$495,000
* H. F. Palmer, Jr., & Company, New York, N. Y. (hull and machinery to be constructed according to Department's plans and specifications)	490,000

Tabular statement of proposals received and opened November 1, 1887, for the construction of a first-class torpedo boat, authorized by the act of August 3, 1886.

The Vulcan Iron Works, Chicago, Ill	\$84,800
*The Herreshoff Manufacturing Company, Bristol, R. I.	82,750

THE ARMOR-CLADS AND MONITORS.

By the act of August 3, 1886, the Department was authorized to construct two armor-clad vessels, each of about 6,000 tons, and each to cost, exclusive of armament, not exceeding \$2,500,000.

As explained in the last annual report of the Department, it was decided to invite the submission of plans for these vessels by naval architects in civil life at home and abroad, and a prize of \$15,000 was offered for any accepted design. Plans were received from various sources and much interest was elicited. A board of naval experts was appointed to consider the same and the award was unanimously made to the Barrow Ship-building Company, of England, for plans prepared by the eminent naval architect, Mr. William John. One of these vessels will therefore be built upon the plans of the Department and one upon those of the successful competitor.

The completion of the double-turreted monitors will be somewhat delayed from the necessity of obtaining the armor from the Bethlehem Iron Company under the contract referred to heretofore. Meanwhile the matter is receiving careful attention. It is not deemed desirable to order work begun upon these vessels in the navy-yard until they can be pushed to completion.

COAST AND HARBOR DEFENSE APPROPRIATION.

Congress at its last session appropriated the sum of \$2,000,000 for coast and harbor defense vessels. This is the only appropriation heretofore made for a new navy, the disposition of which has not as yet been determined by the Department.

A board of officers was appointed on the 18th day of August last to consider the subject, and they have reported, but the recent unavoidable absence of the head of the Department has prevented a proper review of the matter. Bids were opened upon the 1st day of November last for the construction of one first-class torpedo boat, and two bids were found to have been received; one from the Herreshoff Company, of Rhode Island, and one from the Vulcan Iron Works, of Chicago. As both offer ample guaranties, and the plans submitted with the bids in each case are satisfactory, both offers may be accepted. If so, one will be paid for out of the appropriation for harbor defense boats. Beyond this the Department is not disposed to go in the construction of these unprotected torpedo boats. It is believed that at present the facts are against them.

If one should sum up the results of the naval maneuvers of the last year or two and admit the just consequences of the facts developed at the trials, it would be admitted that the range of usefulness of the unprotected torpedo boat is certainly very limited. When they can be seen they can be easily destroyed by machine and rapid-fire guns. This rules out all day fighting. No fleet has for years in its maneuvers wasted time experimenting with the use of torpedo boats in day fighting. The electric search light has, judged by the later trials, made their usefulness at night extremely doubtful. They are of value only upon occasions when they are invisible to an enemy. Such occasions are rare. The smoke of battle might conceal them, and for a nation having large classes of fighting ships they might prove of consequence, but that is not our situation at present. Now and then an unusual night, dark and foggy, would impair the efficiency of the electric search light, and an occasion favorable for these boats be presented. But the statement of the fact that they are of value only upon rare and accidental occasions should rule them out as a reliable weapon for coast and harbor defense. A nation can not select the nights when it will defend its harbors. The occasions when it must be chosen by its adversary.

The foregoing observations only shift the problem a little. *The weapon carried by the torpedo boat is the most destructive known. Tor-*

pedoes—projectiles of all kinds containing high explosives—are incomparably the most powerful known. The abandonment of the unprotected boat does not involve the abandonment of the projectile. The facts concerning the unprotected torpedo boat have not as yet been generally formulated into the conclusions above stated, but a careful study of the facts has brought about a settled conviction upon the subject which will govern the action of this Department.

In what way, then, shall the high explosive projectiles be carried so as to certainly reach the object of attack in spite of machine and rapid-fire guns? One method possibly now taking practical shape is that of the submarine boat. Elsewhere in this report will be found a reference to the latest and probably the most promising trial of this class of boat thus far had. A number of claimants are pressing different devices for these boats. In order to ascertain whether any known and certain results have yet been reached in the progress of this branch of the art, the Department has, with the aid of the chief of the Bureau of Ordnance, prepared an advertisement inviting all persons who offer to guaranty the results of their work to submit proposals to the Department upon the 1st day of March next. It will serve to sift the claims and may result in an effective and operative submarine torpedo boat. It is reasonably certain that boats entirely submerged, except as to a turret, small and protected against machine-gun fire, are practicable.

The pneumatic dynamite gun is a weapon claiming consideration in this connection. Its range is such as to avoid the necessity of approaching closely to the object of attack, but the Department does not feel authorized to expend anything further upon this weapon until a trial shall have been had of the guns upon the boat now being built. If this trial should be favorable to the gun, it would remove many doubts and difficulties. This will be known within the next few months.

If these various devices fail, *protected boats* can be built of small tonnage, of light draught, proof against machine-gun fire.

To sum up this matter, the Department deems it unwise to follow at present the course of the European powers in building *unprotected* torpedo boats. It recognizes the power of the dynamite projectile, and believes it practicable to embody it in such manner as to insure that it will reach any desired object of attack in spite of known weapons, and upon that problem it is engaged.

THE CONSOLIDATION OF NAVAL STORES.

In the last two annual reports of the Department the necessity for a better system of handling the stores and supplies and for making the purchases of the Department has been fully explained. During the last year a new system has been inaugurated. There will hereafter be accountability for the property and a responsible head to the business. Requisitions for goods are to be made on the Paymaster-General, who

becomes responsible for the purchases being honestly made, and his subordinates at the yards and stations transact the business and keep the accounts. The reduction in the expense of handling and caring for the stores, including clerks, has been over 25 percent. (Appendix, p. 476.)

THE SINGLE-TURRETED MONITORS.

I find myself unable to concur in the recommendation that the single-turreted monitors be repaired and made ready for coast-defense vessels.

An examination of their characteristics shows that outside of the ships in our own Navy, no antagonist could probably be found against which they could stand for a moment. They were good vessels for their time, but are entirely obsolete. The Admiral of our Navy, speaking upon this matter in 1876, said :

Our monitors are protected by only about 4 inches of laminated plates, have a speed of less than 8 knots, with a tonnage of from 480 to 1,750 tons, and are armed with smooth-bore guns that will not penetrate the 4-inch solid iron plates at 900 yards (which the lightest iron-clads of foreign nations carry, backed by oak), while the lightest foreign iron-clads average about 4,000 tons displacement, a speed of 12 knots, and their guns will send projectiles through the thickest turrets our vessels carry, and they would run over and sink our squadron of small fry with hardly a scratch on their paint work.

This comparison was made in 1876. If made in 1887, it would be still stronger. A first-class modern iron-clad could safely anchor, surrounded by a fleet of these monitors, without any danger of injury to herself, and any one of her guns could send a projectile clean through the monitor from stem to stern.

It would be little less than murder to send men in these at the present time to encounter any recently built iron-clad.

I appreciate fully that it is only as a temporary expedient that it is suggested, and with the thought that in the absence of anything else these might be better than nothing. This has been the theory upon which over fifty, and probably seventy-five, millions have been spent since the close of the war. *It is time to stop it, and be content only with the best.* If every dollar is made to count upon something of real value waste will stop, and not before.

THE HARTFORD.

Congress, at its last session, appropriated specifically for the repair of certain vessels, including the *Hartford*. When she was stripped it was found that her repairs would largely exceed the estimate which the Department had submitted to Congress, and upon which the appropriation was based.

The specific appropriation becoming exhausted, the power of the Department to go further was doubtful, inasmuch as the authority to expend the general appropriation of this Department "for repairs of ves-

sels" is limited to those not requiring an expenditure of 20 per cent. of the value of a new vessel of the same character.

It was decided, therefore, to suspend work, and allow the matter to be resubmitted to Congress.

THE TENNESSEE.

Among the vessels dropped from the Navy Register and sold during the past year is the *Tennessee*.

The account of the sale is stated elsewhere.

The history of this vessel is quite interesting and most illustrative. She had a short life, but, as a consumer of money, a brilliant one. Her hull was built and she was equipped in the New York navy-yard. Her machinery was designed and built under contract by the eminent engineer, Mr. John Ericsson, costing \$700,000. Her total original cost was \$1,856,075.81. Upon her trial trip, in January, 1867, she ran about 1,000 miles. She attained a speed of 16 knots and made a run of 15 knots per hour for four hours. She encountered a perilous storm, described as a hurricane, which continued over twenty-four hours. The ship suffered considerably. The report of her commander says:

The engines moved off finely and worked perfectly during all the storm * * * her machinery is as perfect as it need to be. It has undergone the severest test and not once found wanting. She is the fastest ship I have ever seen.

The chief engineer says:

If the strength and workmanship of the machinery can not be depended upon then no reliance is to be placed upon the performance of any steam machinery with which I am acquainted

Two years afterwards she underwent what was called "repairs," and the sum of \$576,799.61 was spent upon her; all but \$73,000 of this was put on her hull and equipment. It was the full price of a new wooden hull of her size at that time. This was from 1869 to 1871. She then made a cruise of three months and went into the hands of Mr. John Roach to enable him to take out the machinery and boilers of John Ericsson and substitute others of superior character. It was among other things expected to give the ship a 14½-knot speed for twenty-four hours. When she had her trial of this new machinery in 1875 her maximum speed was 10½ knots, and she had had put upon her an expense of \$801,713.60 in addition to the value of her machinery and boilers taken in trade by Mr. Roach at \$65,000. This machinery had cost \$700,000; had not been in actual service six months; had never been surveyed and condemned by a board of Government officers, nor its value fixed by any Government board, but it was sold to Mr. Roach as old iron.

That is to say, between 1869 and 1875 the *Tennessee* had had three months' service and had cost in repairs and improvements \$1,443,513.21.

This was largely in excess of a fair price for a new ship of her characteristics.

Twelve years afterwards (on April 4, 1887) she is condemned by the Statutory Board as unseaworthy and not worth repairing and ordered sold, having had put upon her between 1875 and 1887 the additional sum of \$577,716.17. She brought \$34,525 at the auction sale. She had cost the Government \$3,800,000 in round numbers and had done about ten years of active service, outside of repair shops and navy-yards.

It is often the subject of wonder what has become of the \$70,000,000 spent upon war vessels since the close of the war, in view of the fact that there is now no Navy. This bit of history will serve as an illustration.

THE PNEUMATIC GUN.

The pneumatic dynamite gun has been developed by private enterprise to the point where it merits immediate attention. The constant strife for mastery between the offensive and the defensive implements of war results periodically in new devices, changing entirely existing conditions. The improvements in armor and in the range and power of guns may be said to have kept pace each with the other. But as the weak point of an iron-clad is in its unprotected bottom, invention has been directed to torpedoes and torpedo-boats, and these have been almost a mania with European powers during the last five years.

Meanwhile the development of the machine gun, and the introduction of steel nettings as a protection against the approach of the torpedo-boat or the torpedo have limited so greatly the range of usefulness of the torpedo-boat as to have caused a considerable distrust of its availability as a weapon. The principal difficulty is that its range of torpedo fire is so short that it is obliged to approach within a few hundred feet of the object of attack, which subjects it to destruction by machine guns.

The pneumatic dynamite gun attacks the problem by a new method. The company has demonstrated that by the use of pneumatic power projectiles containing large quantities of high explosives can be fired with safety and considerable accuracy a distance of between one and two miles.

Whatever destruction a torpedo can do this projectile can do if accurately placed. Against its method of attack neither nets nor machine guns are of any considerable use. It can be fired at such a distance as to be beyond the effective range of machine guns and the line of flight of its projectile escapes nets. There are questions yet to be settled before its efficiency for naval purposes can be fully determined. This invention, like every other, has its own peculiar problems to solve, but the zeal and intelligence thus far given to the development promise ultimate success.

It will at once be apprehended that in order to insure immersion of the projectile (necessary to the highest destructive power of the dynamite) the line of flight of the projectile must be in the arc of a circle—

similar to mortar fire. To drop a projectile at any given point with a line of flight has hitherto been deemed impracticable. The first impression of every expert has been to reject the gun for probable inaccuracy. The company has, however, claimed that by the use of pneumatic power an absolutely accurate and determinate force is employed and this element of uncertainty removed. The demonstration has reached this point, that, given a fixed platform for the gun, as would be the case in coast defense, and opportunity for previous experiment to determine range, projectiles can be lodged at any desired point with great accuracy. The force can be gauged to a pound.

For coast and harbor defense, to be fired from land batteries, its accuracy is substantially established, but for naval purposes other elements of difficulty intervene. The movement of the vessel destroys the possibility of availing of a range previously determined by experiment. An accurate range-finder is necessary. Those hitherto employed for determining the distance of objects have required a longer base-line than can be had on board ship. Other difficulties also arise for consideration. However, the problems to be solved to make it thoroughly successful for naval purposes are receiving the most zealous and persistent study, and it is believed by those interested that in time all will be worked out.

This gun developed to its present point exclusively in this country and by private enterprise promises to be the most notable event of the year. The claim made for it is quite revolutionary. It is claimed that by increasing the caliber of these guns an accurate range of from three to four miles can be had from a land battery, and that projectiles can be used containing not less than 400 pounds of high explosives. The present demonstration where the accurate range of one mile is shown renders the claim not greatly improbable.

The importance of this matter is somewhat due to the fact that the guns are not difficult of construction, nor, compared to other weapons, expensive, and could be made at any one of a dozen steel manufactories with their present plant; and unless there is something very greatly wrong in the assumed destructiveness of torpedoes and high explosive projectiles the gun must be ranked as of extreme importance.

The experiments witnessed by officers of the Department and their report will be printed in the appendix to this report. (Appendix, p. 483.)

THE NAVAL RESERVE.

The policy of this country has always been opposed to the establishment of large permanent naval and military organizations. This policy for a country with a great coast line and important commercial interests almost necessitates the maintenance of auxiliaries in the way of naval and military reserves. The land forces have such auxiliaries in the shape of State militia or national guards. These constitute large bodies of troops, well organized and equipped, thoroughly well trained and dis-

ciplined, ready to take the field and to become a part of a regular military establishment when required.

A public feeling seems to exist for the creation of a naval reserve.

Committees of the Chambers of Commerce of New York and San Francisco have passed resolutions urging the organization of such a force, as a means for providing for the coast defense and meeting the increased demands of the regular naval establishment for men and vessels upon the outbreak of war. Inquiries have also been made at the Department from cities of the Great Lakes, and meetings have been held in cities of the South indorsing the formation of such a national organization.

The Department has informed itself fully of the different systems of organization for coast defense and naval reserves at present in force in foreign countries, and is prepared to formulate a general plan for a similar organization to meet the requirements and conditions of our own institutions. It should resemble in organization that of the militia or national guard, rest upon the foundation of local interest, contemplate the employment and rapid mobilization of steamers enrolled on an auxiliary navy list, and be calculated to produce the best results upon a comparatively small national expenditure. I ask for this question the earnest consideration of Congress.

It may not be out of place as a branch of this subject to call attention to one of the incidental consequences of the policy pursued by other countries in this matter of a naval reserve. In time of war troop ships or transports are in great demand. Several European Governments make an annual contribution, based on tonnage, to companies constructing new vessels. The consideration to the Government is a counter agreement, permitting the Government to take such a vessel for a transport in time of war upon terms named in the agreement. The Government officials are also consulted as to her mode of construction, and she goes on to the naval reserve list. These payments are incidentally in the nature of a subsidy to the ship-owner, and this, with the liberal payments for Government transportation of mails, etc., keeps a large fleet of merchantmen afloat as a reserve ready for a time of war. Without ships and trained seamen there can be no naval reserve.

A notable illustration of the generosity and courage with which England pushes her shipping interest is seen in the manner in which she is at this moment dealing with the trade of the North Pacific. It has been thus far principally under the American flag and contributory to San Francisco and the United States. The British Government and Canada together are proposing for the establishment of a line of first-class steamers from Vancouver to Japan. The subsidy is likely to be \$300,000 annually—£45,000 from England and £15,000 from Canada. There will also be contributed from the naval reserve fund probably \$5 per ton annually for each ship constructed for the route, which will in-

ease the sum by probably \$125,000. Under such competition it is quite easy to conjecture what will become of the American flag and our resources in the way of a naval reserve in the North Pacific.

WAR VESSELS IN COMMISSION.

The North Atlantic Squadron remains under the command of Rear-Admiral Stephen B. Luce, and consists at present of the following vessels: *Richmond* (flag-ship), *Atlanta*, *Ossipee*, *Galena*, *Yantic*, and *Dolphin*. The *Tennessee* was put out of commission at the navy-yard, New York, January 20, 1887, and the vessels above mentioned, with the exception of the *Galena* and *Yantic*, have joined the squadron during the past year. The *Richmond*, *Galena*, and *Yantic* made a cruise to the West Indies last winter, and the entire squadron has cruised along the coast of North America as far as the Gulf of St. Lawrence, one of the ships going up the St. Lawrence River to Quebec and Montreal.

In September last the squadron was ordered to Philadelphia to participate in the ceremonies attending the centennial anniversary of the adoption of the Constitution of the United States, after which it assembled at Newport for fleet drills and maneuvers in connection with the course of instruction at the Naval War College. The vessels of the squadron are now at New York and Norfolk preparing for winter cruise.

The South Atlantic Squadron continues under the command of Rear-Admiral Daniel L. Braine, and is composed of the *Lancaster* (flag-ship), *Tallapoosa*, and *Alliance*. The latter vessel joined the squadron in June last, having sailed from the United States for her station via the Mediterranean Sea, Suez Canal, and east coast of Africa, and having visited en route the principal ports on the coasts of South Africa, Madagascar, and the Comoro Islands. The *Lancaster* and *Tallapoosa* have been employed during the year in the waters of Brazil, Uruguay, and the Argentine Republic.

Rear-Admiral John Lee Davis remained in command of the Asiatic Station until November 22, 1886, when he was relieved by Rear-Admiral Ralph Chandler, who continues in command of the United States naval force on that station. The squadron is now composed of the *Brooklyn* (flag-ship), *Omaha*, *Marion*, *Essex*, *Monocacy*, and *Palos*. The *Marion* is now at Panama for new officers and men, and will, when they have been received on board, return to her station via the Sandwich Islands. The vessels of the squadron, during the past year, have been actively employed in the waters of China and Japan; and one or more of the ships have, during the unsettled condition of affairs in Corea, been kept in Corean waters for the protection of our interests in that recently opened country. The *Brooklyn* and *Essex* have joined the squadron since my last report. The *Ossipee* has returned to the United States, and been assigned to duty on the North Atlantic Station.

The Pacific Squadron is now under the command of Rear-Admiral Louis A. Kimberly, Rear-Admiral E. Y. McCauley having been detached therefrom November 6, 1886. The squadron consists of the *Vandal* (flag-ship), *Juniata*, *Mohican*, *Iroquois*, *Adams*, *Alert*, *Pinta*, and storeship *Monongahela*. The *Hartford*, needing extensive repairs, was sent to the navy-yard, Mare Island, Cal., and put out of commission January 14, last. The *Vandalia*, *Juniata*, and *Alert* have joined the squadron during the past year. The *Mohican* has returned from her cruise to the islands of the South Pacific. The vessels of the squadron have cruised during the year along the west coasts of Mexico and Central and South America, and owing to the disturbed condition of affairs in the Sandwich Islands it was deemed advisable to send Admiral Kimberly with his flag-ship and three other vessels of his command to Honolulu for the protection of American interests. Three of the vessels of the squadron are still in Hawaiian waters, and will remain there until affairs become tranquil. The *Adams* has recently been dispatched from Honolulu to the Samoan Islands at the request of our consul at Apia. The *Pinta* is still employed exclusively in Alaskan waters.

Rear-Admiral S. R. Franklin, having reached the age of retirement on the 24th of August last, he was that day succeeded in command of the European Station by Acting Rear-Admiral James A. Greer. The *Kearsarge* has returned to the United States and been put out of commission. The force on this station now consists of the *Pensacola* (flag-ship) and *Quinnebaug*. The *Pensacola* has been ordered to the United States, to arrive in January next, for relief officers and men. Both vessels have been actively engaged in cruising in the Mediterranean during the year, and the *Quinnebaug* has also made an extended cruise along the west coast of Africa.

The vessels of the training squadron remain the same as in my last report. The three cruising ships, the *Saratoga*, *Jamestown*, and *Portsmouth*, have made the annual practice cruises to the West Indies and to Europe.

The vessels on special service are the *Despatch* on the Atlantic coast, the *Ranger* in the Pacific, engaged in surveying and sounding on the coast of Lower California, and the *Michigan* on the northwestern lakes.

The *Thetis* was put in commission at the navy-yard, New York, in January last for special service in the North Pacific Ocean. She left Hampton Roads, Virginia, May 7, 1887, and arrived at San Francisco October 17, en route to Alaska.

The *Trenton*, *Boston*, *Enterprise*, and *Nipsic* have recently been put in commission, but not yet assigned to any squadron.

[A detailed report of the movements of the vessels will be found in the Appendix, p. 16.]

REPORT OF THE SECRETARY OF THE NAVY.

455

APPROPRIATIONS AND EXPENDITURES, 1887.

Amount of appropriations for the fiscal year 1887.....	\$13, 189, 153. 72
Drawn from said appropriations to June 30, 1887	10, 835, 102. 25
Balance undrawn July 1, 1887	2, 354, 051. 47
Due general account of advances to June 30, 1887	1, 712, 146. 03
	641, 905. 44
In hands of disbursing officers June 30, 1887.....	292, 969. 07
Actual balance available unexpended July 1, 1887.....	934, 874. 51
Amount drawn to November 30, 1887.....	\$1, 035, 585. 40
Refunded during same period.....	236, 044. 15
	799, 541. 25
	135, 333. 26
In hands of disbursing officers October 31, 1887	20, 258. 96
Balance available December 1, 1887.....	164, 592. 22

This balance will be still further reduced by outstanding liabilities.

The following table exhibits the appropriations, expenditures, and balances under each particular head of appropriation.

Statement of appropriations and expenditures for the fiscal year ending June 30, 1887.

	Appropriations for fiscal year ending June 30, 1887.	Amount drawn during fiscal year ending June 30, 1887.	Balances undrawn June 30, 1887.
Pay of the Navy.....	\$7, 000, 000. 00	\$5, 661, 074. 88	\$1, 338, 925. 12
Pay, miscellaneous.....	225, 000. 00	217, 273. 09	7, 726. 91
Contingent Navy	10, 000. 00	3, 765. 50	6, 234. 50
Pay of the Marine Corps	649, 642. 00	539, 550. 81	110, 091. 19
Pay civil members Naval Advisory Board.....	5, 500. 00	5, 010. 40	489. 60
Quartermaster's department of the Marine Corps	199, 646. 50	192, 876. 18	6, 770. 32
Naval Academy	189, 031. 97	188, 714. 25	317. 72
Navigation and navigation supplies.....	83, 500. 00	53, 884. 35	29, 615. 65
Naval War College	6, 000. 00	5, 505. 10	494. 90
Ordnance and ordnance stores	109, 300. 00	105, 233. 72	4, 066. 28
Repairs (Ordnance)	15, 000. 00	12, 545. 42	2, 454. 58
Torpedo Corps.....	58, 500. 00	46, 688. 88	11, 811. 62
Equipment of vessels	782, 200. 00	600, 564. 20	181, 635. 80
Transportation and recruiting (Equipment and Recruiting).....	25, 000. 00	24, 165. 99	834. 01
Naval training station, Coaster's Harbor Island, R. I.	8, 000. 00	5, 668. 55	2, 331. 45
Maintenance yards and docks.....	170, 000. 00	159, 372. 69	10, 627. 31
Navy-yard, Brooklyn, N. Y.	100, 000. 00	81, 623. 47	68, 376. 53
Navy-yard, Mare Island, Cal.....	213, 505. 00	89, 063. 40	123, 931. 60
Repairs and preservation at navy-yards	125, 000. 00	123, 890. 86	1, 619. 14
Naval Asylum, Philadelphia, Pa.....	63, 067. 00	46, 076. 40	16, 090. 60
Surgeons' necessities and appliances	55, 000. 00	37, 703. 72	17, 296. 28
Naval hospital fund	30, 000. 00	29, 999. 00	. 40
Repairs (Medicine and Surgery)	15, 000. 00	14, 887. 42	112. 58
Provisions, Navy	1, 052, 000. 00	801, 948. 57	250, 051. 43
Construction and repair	900, 000. 00	852, 736. 84	47, 263. 16
Steam machinery	763, 000. 00	704, 646. 73	58, 353. 27
Contingent (Bureaus)	119, 500. 00	74, 413. 51	45, 086. 49
Civil establishment at yards and stations.....	216, 671. 25	205, 228. 22	11, 443. 03
	13, 189, 153. 72	10, 835, 102. 25	2, 354, 051. 47
Deduct amount due general account of advances June 30, 1887.....			1, 712, 146. 03
			641, 905. 44
In the hands of disbursing officers June 30, 1887			292, 969. 07
			934, 874. 51

The total amount of the appropriations above given for current expenses exceeds that stated on page 14 of the last annual report \$253,595, on account of a different classification of objects.

ESTIMATES AND APPROPRIATIONS, 1888 AND 1889.

The estimates for the Navy and Marine Corps (including salaries and contingent, Navy Department) for the current fiscal year amounted to \$25,589,479.02, and the appropriations to \$26,182,723.79.

The estimates for the fiscal year ending June 30, 1889, amount to \$23,427,940.13, or \$2,161,538.89 less than the estimates, and \$2,754,783.66 less than the appropriations for the current fiscal year.

The following table is a comparative exhibit of the appropriations for 1888 and the estimates for 1889:

Appropriations for 1888 and estimates for 1889 for the Navy and Marine Corps.

Current expenses.	Appropriations 1888.	Estimates for 1889.
Pay of the Navy.....	\$7,000,000.00	\$7,082,404.00
Pay, miscellaneous.....	205,000.00	225,000.00
Contingent, Navy.....	7,000.00	7,000.00
Contingent, Bureaus.....	120,500.00	135,500.00
Civil establishment, yards and stations.....	199,132.84	214,235.64
Marine Corps, pay.....	651,662.88	663,781.43
Marine Corps, quartermaster's department.....	240,628.62	228,560.55
Naval Academy.....	203,830.45	195,813.45
Bureau of Navigation:		
Navigation and navigation supplies.....	83,500.00	130,000.00
Ocean surveys.....	5,000.00	10,000.00
Publication of surveys of Mexican coast.....	5,000.00	10,000.00
Coaster's Harbor Island.....		12,400.00
Bureau of Ordnance:		
Ordnance and ordnance materials.....	124,400.00	170,000.00
Repairs.....	15,000.00	15,000.00
Torpedo Corps.....	57,800.00	89,500.00
Bureau of Steam Engineering:		
Steam machinery.....	675,000.00	800,000.00
Bureau of Construction and Repair:		
Construction and repair.....	900,000.00	900,000.00
Bureau of Provisions and Clothing:		
Provisions.....	1,121,000.00	1,217,476.50
Bureau of Yards and Docks:		
General maintenance.....	170,000.00	220,000.00
Naval Asylum.....	63,167.00	90,111.00
Repairs and preservations.....	450,000.00	400,000.00
Bureau of Medicine and Surgery:		
Medical department.....	57,500.00	60,000.00
Naval hospital fund.....	30,000.00	30,000.00
Repairs.....	15,000.00	25,000.00
Bureau of Equipment and Recruiting:		
Equipment.....	625,000.00	725,000.00
Transportation and recruiting.....	25,000.00	30,000.00
Training station, Coaster's Harbor Island.....	14,000.00	30,000.00
Total current expenses.....	13,066,121.79	13,716,782.57
OTHER OBJECTS.		
Increase of the Navy.....	11,048,362.00	
Bureau of Ordnance.....	\$2,600,000.00	
Bureau of Construction and Repair.....	3,000,000.00	
Bureau of Steam Engineering.....	1,500,000.00	
Improvements at yards and stations:		
Bureau of Yards and Docks.....	955,591.56	1,222,361.00
Bureau of Construction and Repair.....	225,000.00	
Naval Academy:		
Purchase of ground.....	108,000.00	
Steel practice ship.....	275,000.00	
Converting hospital into quarters.....	10,000.00	
		393,000.00

Appropriations for 1888 and estimates for 1889 for the Navy and Marine Corps—Cont'd.

Current expenses.	Appropriations 1888.	Estimates for 1889.
OTHER OBJECTS—continued.		
New Naval Observatory (Navigation)	\$80,000.00	\$300,000.00
Naval hospital park, Norfolk (Medicine and Surgery)	5,000.00	5,000.00
New barracks at Norfolk	\$80,000.00	
New barracks at League Island	20,000.00	
		80,000.00
Bureau of Ordnance:		
Main and secondary batteries for four new ships, in service	445,000.00	
General armament, modern secondary batteries, and small arms	233,250.00	
Modern guns and ammunition for cadets at Naval Academy	69,000.00	
Modern guns and ammunition for training squadron	65,000.00	
Proof of naval armament	6,000.00	
		818,250.00
Navy Department:		
Salaries and contingent	314,896.00	364,316.00
Printing and binding	60,000.00	60,000.00
Purchase of the <i>Stiletto</i>	25,000.00	
Repair of <i>Hartford</i> and other vessels (Construction and Repair)	200,000.00	
Hospital and wharf, Widow's Island (Medicine and Surgery)	50,000.00	
Proving ground, Annapolis (Ordnance)	40,000.00	
Testing torpedoes (Ordnance)	50,000.00	
Relief acts	20,980.00	
Contingent (Provisions and Clothing) (special)	20,000.00	
Total for all purposes	26,182,723.79	23,427,940.13

Of the amount appropriated for the *current* expenses of the present fiscal year, there has been drawn from the Treasury, after deducting sums refunded from July 1 to October 31, 1887, \$2,833,040.65, or \$865,563.29 less than during the same period of the past fiscal year.

SALES OF CONDEMNED VESSELS.

The following-named vessels, stricken from the Navy Register under the provisions of the act of August 5, 1882, as "unfit for further service," have been sold during the year, as authorized by the act of March 3, 1883, viz: The *Tennessee*, *Powhatan*, and *Ticonderoga*, at New York, and the *Cyane*, *Shenandoah*, *Lackawanna*, and *Wachusett*, at Mare Island. Proposals were invited for these vessels by public advertisement, and opened July 30. There was no offer for the *Tennessee*. The Government received for the six others \$91,180, which was \$22,180 in excess of their appraised value. Of the amount so received \$1,791.13 were paid for advertising, \$72,004 have been covered into the Treasury as "miscellaneous receipts," and \$17,384.87 retained on deposit with the United States Treasurer, to be used should it be determined to break up the hulk *New York*, on the stocks at the Brooklyn navy-yard, and the *Antietam* now at the League Island yard, and to cover outstanding advertising bills.

The *Tennessee* was reappraised and, by authority of the President, and in pursuance of the act of March 3, 1883, sold at public auction September 15, for \$34,525, which was \$6,525 in excess of her reappraised value. The net amount realized from the sale of the *Tennessee*,

after payment of the auctioneer's commission, was \$33,661.88, which has been deposited in the Treasury and will be covered in as "miscellaneous receipts." The *New York* was offered at auction at the same time, but no bid received equal to her appraised value.

As soon as temporary provision can be made at League Island for the Marine guard quartered on the *Antietam* (no longer suitable for that purpose), it is proposed to offer her for sale.

A detailed account of the receipts and expenditures by the Secretary of the Navy, connected with the sale of condemned vessels, will be found in the appendix (p. 8).

SALES OF GOVERNMENT PROPERTY.

A detailed statement of the receipts from the sales of Government property pertaining to the Navy, as shown by deposits in the Treasury, from November 1, 1886, to November 1, 1887, will be found in the appendix. The total deposits, which embrace premium on exchange, rents, and articles supplied other departments of the Government, amounted to \$247,876, of which \$189,630.74 were covered into the Treasury as "miscellaneous receipts," and \$58,245.26 credited to the appropriations to which they belong, in accordance with law. This statement does not embrace the amounts received from the large sales at Portsmouth, N. H., Boston, and San Francisco, which have not yet been deposited in the Treasury, and may amount to \$100,000, or more; the accounts not having been fully adjusted and outstanding advertising and other bills paid. It includes, however, the sum of \$72,004 of the amount mentioned in this report as realized from the sale of condemned vessels. (Appendix, p. 10.)

AUTHORITY TO CONSTRUCT NEW SHIPS.

It has not been the custom of the Department of late years to specify the forms and characteristics of vessels recommended to be built. It has seemed wise to leave these matters to the disposition of Congress. The Department is prepared to proceed with the construction of armor clad vessels and recommends the commencement of two additional ones to cost exclusive of armament not exceeding \$6,000,000, one to be built by contract and one in one of the navy yards.

It also asks for authority to build three more fast cruisers of the highest type.

Attention is called to the report of the chief constructor where it is stated that in six years but four of the present cruising ships will remain serviceable. The present Navy, in other words, will have disappeared at that time. (Appendix, p. 286.)

DEVELOPMENTS OF THE YEAR.

The steam trials of the year have indicated the great increase in speed and ratio of power to displacement in vessels recently designed. In

in these cases this has been obtained by sacrificing many other qualities which are essential in a war vessel.

Among the fastest vessels tried during the year may be mentioned—The *Dogali*, a lightly protected steel cruiser of 2,000 tons' displacement, built by Armstrong, Mitchell & Co., and purchased some months ago by the Italian Government. This vessel is reported to have developed a speed of 19.6 knots on the measured mile trial with 7,600 I. H. P.

The Chinese cruisers recently completed at Elswick, and now in China, present some remarkable features. They are of but 2,300 tons displacement, very effectively protected by internal armor (protective deck), carry a heavy battery of three 8-inch and two 6-inch B. L. R., besides a secondary battery, and are said to have developed a speed of over 19 knots, and more than 6,000 I. H. P. (The vessels were probably light when tried.)

The *Undaunted*, one of the new class of English belted cruisers, a vessel of about 5,000 tons, developed, on a four-hours' forced-draft trial, an average speed of 18.9 knots, with 8,602 I. H. P., the vessel being brought to her normal load displacement.

The *Galatea*, of the same class, which has just completed her trials, under the same conditions, has attained an average speed of 19 knots, with 9,200 I. H. P.

But the most remarkable vessel produced during the year is the Spanish cruiser *Reina Regente*. This vessel, built by Messrs. Thomson of Clydebank, was tried in October last, sixteen months after her keel was laid. She displaces about 5,000 tons at normal draught, is most effectively protected by internal inclined armor (protective deck), carries an exceedingly heavy battery, among which are four 9.45-inch B. L. R., handles with great rapidity and ease, possesses an unusually great radius of action, and has developed the greatest speed yet attained by any general-service fighting-ship. The official report of the *Reina Regente's* trials for two hours under forced draft, and displacement at 4,900 to 5,000 tons, announces the mean speed as 20.6 knots, with about 11,500 I. H. P. On the natural draft trial the speed developed was 18.7 knots, and I. H. P. 7,780.

If the expectations entertained for the new cruisers, 4 and 5, and the *Baltimore*, now under contract, are realized, it is believed that they will prove as efficient as any other vessels of the same class and date of design.

The cruisers in process of construction in France and Germany correspond closely with our new cruisers in size, speed, and battery power.

Triple-expansion engines, with high piston speed and systems of forced draft are now in universal use in all modern war ships.

In a few vessels of recent design the number of propellers has been increased to three.

The important developments of the year in the United States leading to the early domestic supply of gun forgings, guns, and armor are referred to in detail elsewhere.

Competition among the manufacturers of steel battering shell abroad has produced projectiles giving wonderful, although somewhat inconsistent, results. One of a lot of 200 Holtzer 12-inch chrome-steel shell (ordered by the Admiralty), and recently tried in England, was fired through a new Brown 16-inch compound plate and 10 feet of solid backing, and was stopped by an old armor plate in the rear. The plate was broken in two parts, and cracks were developed over its surface; the frame at the back was broken, and the plate moved back bodily 4 or 5 inches. The projectile was found to be so little deformed that it might have been fired again.

Rapid-fire guns are being rapidly developed and are fast assuming an importance which will permit them to form the principal batteries of certain classes of vessels.

The higher calibers are the 9-pounder and 33-pounder Hotchkiss, and the 30-pounder and 70-pounder Armstrong. These guns are built wholly of steel, and retain the peculiar features of rapid loading, extracting, and pointing of the smaller calibers.

The Armstrong 30-pounder has been recently tried. The gun was fired ten aimed rounds in forty-seven seconds. The initial velocity obtained is reported as 1,900 foot-seconds, with a powder pressure of about 14 tons; the weight of powder charge being 9 pounds. The weight of this gun is 1.7 tons, and the estimated penetration in wrought iron about 7 inches.

The 70-pounder Armstrong (weight 3 tons) has also been fired with a charge of 34 pounds and a projectile of 70 pounds, giving a velocity of 1,950 foot-seconds. The builders believe this gun can be fired at the rate of eight or ten rounds per minute, and that the penetration in wrought iron will be more than 10 inches.

The establishment of the home manufacture of rapid-fire and revolving cannon is of great importance to the country. Reference is made elsewhere to the contract made with the Hotchkiss Ordnance Company for the manufacture of the Hotchkiss guns in the United States.

The manufacture of another gun of the rapid-fire type, the Driggs-Schroeder, of American invention, has been undertaken by a prominent firm. A 3-pounder gun of this model has been built and is now at the Naval Ordnance Proving Ground for trial.

The manufacture of the new brown powder has been successfully developed by Messrs. Du Pont, and the American powder is found upon trial to give results quite as good if not better than those obtained from similar powder purchased abroad.

The pneumatic gun spoken of in my report of last year has been tried before a naval board, and comment upon it is made elsewhere.

In Europe the work of constructing fast torpedo boats has remained in the hands of private builders. The unprecedented speed of 26.18 knots has been attained by the *Ariete*, a 147-foot twin-screw boat built by Thornycroft & Co. for the Spanish admiralty. Messrs. Yarrow & Co. have also completed two single-screw 135-foot boats for the same Government, named the *Azor* and *Halcon*, which on trial, carrying 17 tons, recently developed, respectively, 24 and 23½ knots, which is the best result attained so far by boats of that size. Earlier in the year this firm also built for Italy two twin-screw boats 140 feet long, of 100 tons displacement, which made 24.96 and 25.1 knots for six runs over the measured mile.

Other firms in England and many prominent ones on the continent continue to supply remarkably fast and able boats. The accompanying table shows the number owned or building in October, 1887:

Nation.	Deep-sea class (over 180 feet in length).	First class (from 100 feet to 180 feet in length.)	Second class (less than 100 feet in length and including torpedo boat carried on board ship).	Third class (steam launches and cutters fitted with torpedoes).	Building or ordered.
England.....	2	49	30	430	10 first class.
France.....	5	20	50	129	5 deep-sea, 43 first class.
Italy. (Total number to be 190 by 1898, ten of which are to be deep-sea class.)	2	38	23	150 steam launches to be increased to 250 by 1898.	2 deep-sea, 43 first class.
Russia.....	2	23	34	138 steam launches fitted with spar torpedoes.	2 deep-sea, 3 first class.
Germany.....	3	47	48		2 deep-sea, 19 first class.
Austria.....	2	18	8		2 deep-sea.
Turkey.....		19	2 submarine.		2 deep-sea, 15 first class.
Spain.....	6	7	2		50 to be built.
Greece.....	6		31		
Denmark.....		5	2 submarine. 11	5 mining-boats.	14 first class, 14 second class.
Sweden and Norway.....		12	6	1 mining-boat.	
Holland.....		3	20		
Portugal.....		3	2		3 first class.
Japan.....	1 armored.	4	2		17 first class.
China.....	1	1	17		
Brazil.....		5		15	
Argentine Republic.....			4		
Chili.....			9		
English Colonies.....	2	1	3		

During the present year there is a falling off in the numbers built, but this is partly due to the fact that heavy orders given to different firms in 1886 have been nearly all filled, and more particularly because professional opinion has apparently succeeded in making itself heard in condemnation of most of the torpedo-boats heretofore built. The verdict is that in order to attain the remarkable speeds called for by the conditions of modern warfare, these vessels have been built of too light and delicate construction, and a greater tonnage is desirable for

those intended for service on the high seas. The tendency now exceed lengths of 130 feet and to arm the boats efficiently with machine and rapid-fire guns for self-defense against others specially fitted to attack them. The French *Ouragan*, 151 feet long, and the Yarrow Thornycroft 140 and 147 foot boats, and the still larger "turn-of-war" boats of J. S. White, constitute a type now being studied; but it is probable that for actual sea service proper they will attain a size responding to the *Rattlesnake* type in England, *Bombe* in France, *structor* in Spain, *Ijlin* in Russia—that is, of 300 to 600 tons displacement, which brings them more properly in the domain of torpedo boats. Smaller boats will be built of such size as to be useful for harbor defense, and to be carried by the larger vessels of the fleet. Of this type is being produced capable of steaming at the rate of 17 knots per hour, and yet weighing only 11½ tons, and suitable for the general service of a ship in times of peace.

In view of the great number of machine and rapid-fire guns carried, the question is also being raised whether a partial protection of the motive machinery is not essential. The first step in this direction has been taken by the Japanese Government, who have lately received from Yarrow & Co. a 166-foot boat, in which the boilers are covered with 1-inch steel armor. This will prove inadequate as against the latest developments of machine guns. The result of the last year's consideration of the question is that the torpedo-boat has lost ground.

The transportation of torpedo-boats across country by rail has been effected in France in a manner full of tactical interest. The transit of a 108-foot boat, weighing about 40 tons, from the Mediterranean to the Channel, supplementing the performance of the same journey by canal two years ago, at once doubles the defensive power on the coast, and illustrates the extremely valuable sphere of activity of boats built of such size to render such transit possible. This feature commends its adoption, possessing peculiar interest in the United States.

While some first-class torpedo-boats are found to be too small for efficient service at sea, those for harbor defense are yet so large as to be a valuable feature of invisibility, and many authorities are beginning to maintain that these should have the power of going under water when required. The largest and most powerful submarine vessel ever constructed is the "Nordenföldt," launched in March last by the Imperial Shipbuilding Company. The length of this torpedo-boat is 123 feet, displacement when wholly immersed 243 tons. It is always buoyant when submerged by the power of propellers acting in a vertical direction; should any part of that apparatus get out of order, therefore, the boat would rise to the surface. Two large forced-draft boilers furnish steam for propulsion at the surface; for under water service two additional reservoirs are installed, which, together with the boilers, contain enough superheated steam and water to drive the engines for 20 minutes with the fires out. The ordinary coal capacity is 8 tons, which

the boat 1,000 miles at 8 knots an hour; 20 tons more can be stowed in the fast tanks. At a preliminary trial she made a speed of 6 to 8 knots with the fires out and only the two turrets showing; with a less draught and fires lighted she made 13 to 14 knots.

The two turrets and the upper part of the turtle-back are plated with steel. The offensive power is vested in two tubes and four fish launchers; for defense two machine guns will be carried.

Three finished torpedoes have been presented to the Navy by inventors, viz, the Patrick torpedo, the Howell torpedo, and the Fish torpedo. Some preliminary trials of the Patrick torpedo have been made before the board, and a programme of further trials submitted. This torpedo of American invention has great promise and should be encouraged. Trials with the other torpedoes have not as yet been made, as the owners have not announced themselves ready.

Life-line nets continue to be an increasing factor in protecting vessels from attacks of automobile torpedoes and torpedo boats, and experiments have been made in England and France to test their efficiency under different circumstances. These have shown that for ships at anchor or at low speed (not exceeding 5 knots) the nets carried at a distance from 25 to 30 feet (and even less) from a ship's side furnish an effective protection against such attacks.

REPORT OF THE ADMIRAL.

The report of the Admiral of the Navy, dated July 6, 1887, presents important observations and reflections in reference to the naval regulations of the Engineer Corps, coast defenses, the enrollment of seamen, the condition of the commercial marine, and the reorganization of the Navy. It is given exhibiting the work, during the past year, of the boards of inspection and survey, and attention is specially directed to the condition of the single-turreted monitors. In reference to the subject of coast defenses, the Admiral presents cogent arguments in support of his position, that a necessity exists for putting the nation in a better state of defense, and expresses it as his opinion that the first step to the protection of our coasts should be the construction of heavy forts ready at a week's notice to anchor off our shores and resist a threatening enemy. (Appendix, p. 27.)

BUREAU OF YARDS AND DOCKS.

The Chief of the Bureau of Yards and Docks, Commodore D. B. Hargrave, gives a detailed report of expenditures and improvements at the yards and naval stations during the past year, and submits estimates of the amounts required during the coming year for the maintenance, repair, and improvement of the yards. Among the recommendations may be noted: the repair of the water-supply system at the Boston yard; a new boiler-shop and the repair of the dock at New York; dredging and filling in Philadelphia; the com-

pletion of the railroad extension, the erection of a building for iron and steel shops, and the adaptation of the wet basin for a fitting-out basin, at Norfolk; the construction of a wharf, the extension of the quay wall, and the removal of the gas-holder at Mare Island. The report also deals with the condition of the Naval Asylum, and renews the recommendations previously made for certain small but much needed improvements, including the discontinuance of the objectionable title of "asylum," the erection of a new kitchen, and an increase of pay of certain employés.

Special attention is called to the considerations presented in the report in reference to the provision of additional facilities for naval work on the Pacific coast, especially in the neighborhood of Puget Sound, the great coal and iron region of the future upon this coast. Apart from this question of an additional naval station, measures should certainly be taken to place the only naval station now existing upon the coast, that at San Francisco, in a fully equipped condition.

Another and most important subject, referred to in the report is the question of making available our naval resources on the Gulf coast. The necessity for a naval station upon the shores of the Gulf is imperative. It appears to the Bureau that Pensacola, though defective in some respects, combines many advantages for a naval station, and that, by the removal of the yard to the upper part of the bay, railroad connections can be made and other important benefits secured. (Appendix, p. 94.)

BUREAU OF ORDNANCE.

The report of the Chief of the Bureau of Ordnance, Commodore Montgomery Sicard, contains a summary of operations in the Bureau second in importance to none over which the Department has charge, and illustrating the remarkable development which the affairs of the Navy have undergone during the past year. The steadiness and persistence of method pursued in the Bureau produce results of uniform certainty, and in consequence the efforts of the Department in this direction have met with the most gratifying success. Not the least important or successful work of the Bureau has been the preparation of information, specifications, and rules for the assistance of bidders and for the conduct of the trials and tests of the numerous articles of ordnance contracted for by the Department.

The chief of these papers are as follows: Circular and specifications concerning the requirements to be observed in designing an armored cruiser and an armored battle ship; circular of information and tests to be applied to American armor plates to be furnished under the act of Congress approved March 3, 1885; circular of information and tests concerning armor and gun steel, prepared for the use of bidders and others under the large contract that was recently awarded to the Bethlehem Iron Company; circular concerning the requirements and trials of a proposed steel torpedo boat; instructions in relation to

trial of the torpedo boat *Stiletto*; rules of procedure laid down for guidance of the Torpedo Board in its trials of torpedoes under the act of Congress approved August 3, 1886; specifications for buildings and traveling cranes for the gun factory, and for machine tools for the same establishment, and specifications for Hotchkiss cannon and ammunition; and specifications for steel-cast guns. All these papers required great care in preparation, and some of them involved unusual difficulty, from the novel questions involved, and the want of adequate information in the country.

In reference to the manufacture of cannon during the past year, those originally commenced for the *Chicago*, *Boston*, *Atlanta*, and *Dolphin* have been finished, with the exception of six, which can be completed in a few months. The delay has been chiefly owing to lack of funds, and an appropriation for this purpose is urgently required.

For the armament of the ships since authorized, contracts have been made for gun forgings as follows: For thirty-two 6-inch with the Midvale Steel Works, and for forty-six 6-inch, four 8-inch, twenty-four 10-inch, and two 12-inch with the Bethlehem Iron Company. The Midvale forgings are now beginning to come in, and will be taken in hand at once in the shops at the Washington navy-yard, the contract requiring that the whole number shall be delivered by February, 1889. The Bethlehem Company's contract requires that their plant shall be ready to make deliveries by August 1, 1888, and it is thought that by this time the supply of forgings will be sufficient for the armament of all the vessels thus far authorized, except the harbor defense vessels directed by the act of March 3, 1887, the designs of which are not yet sufficiently developed to admit of fixing the armament.

The guns which have thus far been finished have been subjected to thorough trial, including the statutory tests, with most satisfactory results.

The estimates submitted under "Increase of the Navy" for the coming fiscal year are intended to cover the armament of the *Charleston*, *Baltimore*, *Miantonomoh*, four gun-boats, dynamite cruiser, torpedo boat, *Newark*, Cruiser No. 4, and Cruiser No. 5, and three-fourths of the armament of the four monitors now building.

Additional estimates have also been submitted for supplying with a modern armament four of the present third-rates, which would thus be made efficient vessels; and for the provision of modern guns for use at the Naval Academy and in the training-ships, where they are urgently needed.

Much indispensable and excellent work has been done during the year at the Naval Ordnance Proving Ground. The Bureau has been conducting a search for a new site for a proving ground, appropriated for at the last session of Congress, which shall be free from the objections of the present site, and hopes shortly to reach a satisfactory decision.

The extensive changes necessary to complete the new gun factory at the Washington navy-yard are in progress, and the work will be pushed forward as rapidly as possible.

The development of a suitable slow-burning powder for high-power guns has presented many difficulties, but a satisfactory result has recently been reached, the details of which will be found in the Bureau's report. The efforts of the manufacturers to turn out sound cast-steel projectiles have so far been unsuccessful, but must still be continued in the hope of ultimate results, as the production of such projectiles of proper quality is a necessity. The work on gun-carriages shows good progress. Those of the *Atlanta* have been placed on board and have worked satisfactorily. The bronze deck-circles for the carriages proved not to be sufficiently strong, nor strongly enough fastened down to the deck of the ship to sustain the shock from the recoil of such powerful guns, and they will be replaced by steel circles now in the course of preparation. The bronze circles used at the proving ground stood the shock from the same guns, and the difference in the result on board is believed to be largely due to the spring of the deck and sides of the ship.

An important arrangement has been made with the Hotchkiss Company for furnishing ninety Hotchkiss guns of various calibers, with ammunition, on the condition that the work should be done in the United States. This action will result in the permanent establishment of a new and most useful branch of manufacture in this country. Consideration has also been given to the improvement of fuzes and small-arms, and at the instance of the Bureau a new sample revolver has been designed, embodying several special features, which is now under examination.

The subject of torpedoes has engaged closely the attention of the Bureau, and a torpedo board, acting under instructions carefully framed, has been convened, and is now considering the various plans and designs submitted to it. A circular stating the requirements of the torpedo boat authorized by the act of August 3, 1886, has been issued and proposals have been advertised for, which were opened November 1. A programme for the official trial of the *Stiletto*, for the purchase of which an appropriation was made March 3, 1887, has been prepared by the Bureau.

The Torpedo Station, under the efficient charge of Commander C. F. Goodrich, has continued its important investigations and manufactures, and the course of training for officers has been improved and made more practical. Classes of enlisted men have received valuable instruction both at the Torpedo Station and at the Washington navy-yard, and the importance of the training so given is shown in the eagerness of commanding officers to obtain these men in their crews. It is highly desirable that similar instruction in gunnery should be given on board a ship specially devoted to this purpose; that the crews of all vessels should have a systematic course of instruction in the use of the

armament before the vessels go abroad or on general service; and that prizes should be awarded to enlisted men for excellence in target practice and ordnance exercise, such as are given in all the other principal navies.

Designs for using pneumatic pressure for maneuvering an 8-inch gun-carriage have been submitted by the Pneumatic Gun Carriage and Power Company and referred to the Bureau, which is still in communication with the company concerning them.

A method has been devised by the Bureau of registering the results of target practice by instantaneous photography, the details of which will be found to be of interest.

In view of the great increase of work in his office, the Chief of the Bureau recommends an addition to the clerical force. This addition is urgently required.

Under authority conferred by act of Congress, approved March 3, 1887, making an appropriation "for the purchase and completion of three steel-cast rough-bored and turned, 6-inch, high-power rifle cannon, of domestic manufacture, one of which shall be of Bessemer steel, one of open-hearth steel, and one of crucible steel," the Bureau, under direction of the Department, prepared specifications and proposals for these guns. In answer to the advertisement, dated June 23, 1887, two bids were received, one for the rough-bored and turned casting of Bessemer steel and the other for the rough-bored and turned casting of open-hearth steel. Contracts have been awarded in both cases. (Appendix, p. 230.)

BUREAU OF EQUIPMENT AND RECRUITING.

In the report of Commodore W. S. Schley, Chief of the Bureau of Equipment and Recruiting, will be found a statement of the supplies purchased and manufactured by the Bureau during the past year, including coal, hemp, cordage, anchors, chains, and galleys, sails and other canvas work, and rigging. The concentration of the manufacturing operations of the Bureau at the Boston yard has been accomplished successfully and at small expense by the transfer of such tools as were needed to the new equipment depot, leaving only minor repairs and supplies to be obtained at other stations by ships in commission. Great economy and simplification of business have been secured by this centralization.

The training of apprentices has been successfully carried on at the headquarters of the service at Newport, under Capt. A. R. Yates. As this is the great nursery of trained seamen, its wants should receive the fullest attention. The recent progress of naval science has made special training for seamen a necessity. After a period of schooling and of instruction in the elementary duties of a sailor at the station, the apprentices are sent abroad in the training ships on a cruise. The old ships used for this purpose require constant repair, and are too antiquated for purposes of modern training, which require a knowledge

of modern guns and machinery, of torpedoes, and of electric lights. With this view the Bureau urgently recommends the immediate construction of two steam training-ships, bark-rigged, and engined with modern machinery, fitted with torpedoes and all other modern appliances. A swimming school is also badly needed at the training station.

The number of enlisted men and apprentices on June 30, 1887, was 8,342. The number allowed by law has not been exceeded during the fiscal year, but the service is much cramped by reason of the numbers (about 700 per annum) diverted from cruising service for the Coast Survey, the Fish Commission, and the Naval Academy. It is clear that these men should be in addition to the regular force of seamen. About 40 men have been placed under instruction during the past year at Washington in the care and use of machinery, tools, guns, ammunition, search-lights, etc., and at Newport in torpedoes. This course has proved to be invaluable.

Certain recommendations of a detailed character, and of very great importance to the welfare of enlisted men, are made by the Bureau. Among them are the following: That honorably-discharged men who so elect should be allowed to find a home on board receiving-ships until their next term of enlistment, instead of being forced to seek lodgings in the unwholesome resorts where they are usually to be found; that section 1306 of the Revised Statutes be amended to extend to seamen the privilege of interest on deposits of their pay with the paymasters; that the benefits of retirement and naturalization now granted by law to enlisted men in the Army be extended to the same class and under the same conditions in the Navy; that commissioned naval officers be authorized to administer to recruits the oath of allegiance; that allowances for outfits be made to apprentices, thus removing an intolerable burden; and that promotion to grades of the line, under well-defined limitations and restrictions, be open to a certain number of selected apprentices in each year. (Appendix, p. 128.)

BUREAU OF STEAM-ENGINEERING.

The report of Engineer-in-Chief George W. Melville, Chief of the Bureau of Steam-Engineering, describes the work of the Bureau during the past year, including the preparation of plans for triple-expansion machinery for Cruisers Nos. 1, 4, and 5, and for two armored cruisers. Plans have also been prepared adapting the machinery of "No. 27" design to Cruisers Nos. 4 and 5, to conform to the law under which the latter are to be built. Similarly the machinery of Gun-boat No. 1 is being adapted to Nos. 3 and 4. Preliminary work has also been done on designs for machinery for the monitor *Monadnock* and for the new tugs whose construction is recommended, and plans have been prepared for alterations in machinery of the *Hartford*, *Kearsarge*, and *Sivatara*. The usual repairs to the machinery of vessels have been

made at the different yards, as necessity arose, and a variety of work has been done for other Bureaus, among the items of which may be mentioned the construction of a 100-ton steel crane at Mare Island for the Bureau of Yards and Docks. A compound condensing engine and boiler were also made for the surveying-launch *Cosmos*, of the Coast Survey.

Detailed statements will be found in the report of the progress of work on the machinery of the vessels under contract.

In the report of the Bureau will be found a number of valuable observations accompanied by recommendations in reference to the engineer force, the care, preservation, and operation of the machinery of ships of the Navy, and the business of the Bureau. Among the points noted are the insufficient numbers of the personnel of the Engineer Corps; the ill effects of the present system of educating cadets who are to become engineer officers; the anomalous position of those officers who are borne on the register as cadet engineers; the inadequacy of the engineer force on shipboard, and the injury arising from its diversion to other employments; the necessity of an increase in the number of machinists, and of an improvement in their manner of living on board ship; the disadvantages resulting from the nominal assignment of particular boilers to particular ships; the complication of authority in reference to machinery used for various purposes on shipboard; the inadequacy of inspections as at present conducted by fleet-engineers; the errors likely to result from the composition of boards of survey; the necessity of repeated trials of engines working under full power; the defects of the present system, under which the Bureau can not communicate directly with engineer officers, at sea and at navy-yards; the importance of furnishing intending bidders with general specifications in advance; the necessity of better provision for the care of machinery on board vessels in ordinary; and the insufficiency of present arrangements for the proper handling of material at navy-yards.

The Bureau makes an important recommendation in reference to experiments for the determination of doubtful points in steam engineering, advising that an appropriation of \$25,000 be made for this object, and calls attention to the liberality of J. M. Forbes, esq., in offering his yacht, *Sheerwater*, to the Bureau for the purpose of experimenting with the Belleville boiler, with which it is supplied. Another growing necessity is that for an instrument depot, in order that instruments may be compared with a standard and kept in condition for immediate issue.

For the six tugs recommended by the Bureau of Construction, the Engineer-in-Chief advises engines of simple pattern but of the most recent type. The old single-turreted monitors, as a temporary expedient, should also have improved appliances, and an estimate of \$185,000 is recommended for this purpose.

In order to be ready for any emergency, additions of modern tools should be made to the shop machinery at the navy-yards. Complete hydraulic boiler-making outfits are recommended for New York, Norfolk, and Mare Island. Testing machines are urgently needed, and it is recommended that one be built immediately at the New York yard. Each Bureau using steam machinery at the yards now has its own steam-generating plant, and in the opinion of the Bureau, economy demands that one central boiler-station should be created at each yard as the old boilers wear out. The New York navy-yard now requires a new boiler-shop, and a considerable increase of tools. Additions are needed to the boiler-shop at Norfolk, and a new building for the rolling-mill machinery at Mare Island. A hydraulic boiler-making plant should also be procured for the purpose of making heavy steel boilers at the latter yard. Other items of machinery and tools required will be found in the estimates accompanying the Bureau report.

It is recommended, in view of the large amount of technical work in the Bureau, that an engineer assistant to the Chief of the Bureau be authorized by law. (Appendix, p. 340.)

BUREAU OF CONSTRUCTION AND REPAIR.

Important operations of the Bureau of Construction and Repair are referred to in detail in the report of the Chief of the Bureau, Chief Constructor Theodore D. Wilson, showing the work performed and amount expended during the past year and estimates of amounts required for the next year. The great increase in the labors of the head of this Bureau would seem to require the appointment of an assistant chief, in accordance with the recommendation made in the Bureau report. The Bureau also recommends that two composite single-screw vessels, of about 1,000 tons each, be built to replace the wooden sailing ships now used as training ships, which can not much longer be kept in service. Recommendation is also made for the immediate construction of experimental works, to cost \$60,000, for use in the determination of resistance and other qualities of ships by means of models. Such works now form an important part of the designing branch of foreign naval establishments, and the Bureau is convinced of their permanent value.

During the past year the *Tennessee* and *Shenandoah* have been condemned as unfit for further use in the naval service.

The sloop of war *Hartford* is likely to be condemned, the cost of her repairs exceeding the 20 per cent. limit prescribed by law. Her live-oak frames are sound, and in the opinion of the chief constructor she could be repaired within the amount of \$175,000 called for by the Board of Survey, and he accordingly asks that special authority for her repairs may be given. It is also recommended that the single-turreted monitors should be put in perfect repair. It is estimated that this can be done at an expense of \$500,000. The Department's views on this subject have been stated in another part of the report.

The necessity of additional tugs is pointed out, and it is recommended that six such vessels, of about 200 tons displacement, should be built for towing and other purposes at the navy-yard.

The appropriation contained in the act of August 3, 1886, for the purchase of tools for ship-building is now available, the character and location of the tools required having been decided upon by boards, and the tools being now under advertisement. The amount appropriated has been divided equally between the yards at New York and Norfolk. It is deemed highly desirable that a similar equipment should be provided for the Mare Island navy-yard, that being the only establishment where the building and repairing of vessels can properly be conducted upon the Pacific coast line, thousands of miles in extent. The great natural advantages of this yard, its mild climate both in summer and winter, the depth of water along its front, its freedom from danger of attack by sea, and the immunity of vessels lying there from corrosion, give it remarkable advantages as a place for the construction of modern ships. To carry out this plan the chief of the Bureau urgently recommends that the sum of \$175,000 be appropriated for the purchase of the latest-designed ship-building tools for improving the plant at this yard.

In the appendix to the report of the Bureau of Construction and Repair will be found a detailed statement of the highest interest in reference to the ships now in the Navy and those under construction. The armored ships of the list comprise the five double-turreted monitors, one projected battle ship, and one projected cruiser, in addition to thirteen single-turreted monitors. The unarmored steel and iron vessels include, besides eight vessels on the old Navy list, the following: The *Chicago*, *Boston*, *Atlanta*, and *Dolphin*, contracted for in July, 1883; five protected cruisers, namely, the *Newark*, *Charleston*, *Baltimore*, Cruiser No. 4, and Cruiser No. 5; four cruisers of smaller size, designated gun-boats Nos. 1 to 4; one dynamite cruiser, and one torpedo-boat. Of wooden steamers fit for cruising purposes, there still remain 23; of wooden sailing vessels, 10; and of tugs, 12.

It is the opinion of the chief constructor that of the above-mentioned wooden steamers the *Trenton*, *Omaha*, and *Vandalia*, second rates, could probably be continued in service nine years longer; the *Lancaster*, with new boilers, six years; the *Brooklyn* and *Richmond* five years; and the *Pensacola* three years. Of the third rates, the *Mohican* can be continued in service nine years; the *Adams*, *Alliance*, *Essex*, *Kearsarge*, *Enterprise*, *Tallapoosa*, *Yantic*, and *Nipsic*, five years; the *Juniata*, *Ossipee*, *Swatara*, *Galena*, and *Marion*, four years. The *Quinnebaug* and *Iroquois* will probably be condemned by law on the survey.

It will thus be seen that in three years we shall have 20 of these vessels remaining; in six years, but 4; and in nine years, our entire wooden navy will have disappeared.

In reference to the new vessels, attention is called to the minute detailed statements annexed to the report, from which the following summary is made:

The armored cruiser, a twin-screw turret vessel of the belted-cruiser type, is now building at the navy-yard, New York. She is to have a displacement of 6,648 tons, and a speed of 17 knots.

The armored battle ship, a twin-screw vessel of the belted type, is to be built at Norfolk on the design of the Barrow Shipbuilding Company of England. She is to have a displacement of 6,300 tons and a speed of 17 knots, her vital parts being protected by a steel armor belt 12 inches thick, terminating at each end by a steel breastwork 6 inches thick extending diagonally across the vessel.

The *Newark* is a twin-screw protected cruiser, built of mild steel throughout, and containing all the latest improvements in naval construction, ordnance, and steam engineering. She is to have a speed of 18 knots, and be of about 4,000 tons displacement. She is to be built by the William Cramp & Sons Ship and Engine Building Works, Philadelphia.

The *Charleston* is now building at the Union Iron Works, San Francisco, Cal. She has a central open superstructure, twin screws, and two masts with military tops, in which machine guns are mounted. She is built upon the plans of the swift Japanese cruiser *Naniwa Kan*, built by Sir William G. Armstrong, with such modifications as are rendered necessary by the conditions of the United States service, and the substitution of 8-inch for 10-inch rifles. Her displacement is 3,730 tons, and her speed 18.9 knots.

The *Baltimore*, a twin-screw steel cruiser of 4,400 tons displacement and estimated speed of 19 knots, with a heavy steel protective deck, is now building at the William Cramp & Sons Ship and Engine Building Works, Philadelphia.

Cruiser No. 4 is similar in general construction to the *Baltimore* and will have a displacement of 4,324 tons. The contract for her construction has been awarded to Messrs. William Cramp & Sons.

Cruiser No. 5 is of the same general dimensions as the *Newark*, but much greater power is provided, and a decided modification is made in the battery arrangement and rig by mounting 4 of the 12 guns on the poop and forecastle decks and having a three-masted schooner rig. The contract for building this vessel has been awarded to the Union Iron Works, California.

The two vessels last named are to have a speed of 19 knots.

Gunboats Nos. 1, 3, and 4, although styled gunboats, are but little smaller than the *Sicatara* class of vessels, and in offensive and defensive power and speed are immeasurably their superiors. They are twin-screw, partially-protected cruisers, with a displacement of 1,700 tons, and a speed of 16 knots. No. 1 is building at the William Cramp & Sons Ship and Engine Building Works, Philadelphia. The contract for Nos. 3

14 has been awarded to N. F. Palmer, jr., & Co., of New York, and to be built at Roach's ship-yard, Chester, Pa.

Gun-boat No. 2 is a single-screw gunboat, built entirely of steel, and now under construction by the Columbian Iron Works and Dry Dock Company, Baltimore.

The dynamite cruiser is a vessel in many respects similar to the English torpedo cruisers, except that the torpedoes are discharged through the air instead of through the water. The contract for this vessel has been made with the Pneumatic Dynamite Gun Company, of New York, and she is building at Cramp's ship-yard, Philadelphia.

The *Chicago*, a partially protected steel cruiser, and the *Boston* are now finishing at the New York navy-yard. The *Atlanta* and *Dolphin* are completed. Five double-turreted monitors are now awaiting completion. (Appendix, p. 286.)

BUREAU OF PROVISIONS AND CLOTHING.

The report of Paymaster-General James Fulton, Chief of the Bureau of Provisions and Clothing, gives a succinct statement of the part performed by the Bureau in the important change effected by the Department, by which the purchase, care, and issue of stores are concentrated under this Bureau. Under the operation of the order making the transfer, the Bureau has been organized in two divisions—one of purchase and supplies, the other of accounts and audit—both under the charge of experienced pay officers of the Navy. In view of the arduous character of the work and the high order of ability required for it, the Chief of the Bureau recommends that authority be given to detail a pay officer of the Navy as assistant paymaster-general, and that this officer, as well as the chiefs of divisions, should have a fixed tenure of office, and should receive the highest sea-pay of their grades.

The policy of reducing the quantity of clothing, small stores, and provisions carried in stock has been continued, by which a reduction of \$100,000 has been effected.

The consolidation of stores and supplies under the charge of one general store-keeper, at each navy-yard and on board each ship, has been completed. Additional space has thus been economized, the clerical and other force has been reduced, and responsibility put in the hands of bonded officers. A system of transfers has been introduced with great benefit to the Government, which obviates the purchase of stores by one Bureau when another has a surplus of the same stores on hand. A careful system of checks and safeguards has been devised, by which fraudulent practices are prevented, and at the same time any interference with the Bureaus in the use of their stores has been guarded against. A uniform method of book-keeping has been adopted, securing greater accuracy and more rigid accountability. Abstracts of returns of stores are kept at the Bureau, by which the total amount and value of naval property on hand may be ascertained at once, and a general appropriation book is also kept, in which daily balances under

each head of appropriation are stated. The work of consolidating different Bureau estimates for the same articles has been nearly completed, enabling the Department to invite bids for all articles in one advertisement, while a uniform and commercial classification will enable merchants to bid on the articles they deal in without including others which they do not. The combination of all supplies under one schedule in the manner indicated will effect a great saving in the expenses of purchase and care of stores.

To complete the system, the Chief of the Bureau in his report recommends that appropriations be made in future for stores and materials "for the Navy," instead of for the different Bureaus as heretofore. The report recommends that the act of August 5, 1882, in reference to the sale of condemned articles, be amended so as to conform to the act of March 5, 1875, in reference to the sale of ordnance material, the latter being found to be more advantageous to the Government.

It is further recommended that the act of March 3, 1843, in reference to proposals for supplies, be amended so as to authorize the expenditure for advertising of only a certain percentage of the amount estimated as the cost of the articles to be purchased.

Among other recommendations the most important are the following: That the nominal losses from the desertion of enlisted men before their indebtedness for outfit is discharged, be charged to pay of the Navy instead of to the clothing and small stores funds, as is the present practice of the accounting officers of the Treasury; that issues of clothing and small stores to prisoners be charged to the account of the latter; that the sum of \$24,500, required for the business of the storekeeper at the Naval Academy, be transferred by law from pay of the Navy to a special fund for this purpose; that a commercial description and classification of tobacco furnished to the Navy be adopted by law as a standard; that the number of assistant paymasters be increased to 25, and that appointments be made in future from graduates of the Naval Academy, subject to examination by a board of paymasters, as now provided by law; that the acceptance of corporate sureties of undoubted solvency on the bonds of disbursing officers be authorized; and that when accounts are settled under an official bond, and a new bond has been given and accepted, the old bond should be canceled. (Appendix, p. 397.)

BUREAU OF NAVIGATION.

The Chief of the Bureau of Navigation, Commodore J. G. Walker, submits the annual report of the operations of his Bureau, together with the estimates for its support and that of the offices under it, including those of the superintendent of compasses, naval inspector of electric lighting, Naval War College, Hydrographic Office, Naval Observatory, and Nautical Almanac Office.

Attention is called to the increased importance of the work of determining the magnetic character of naval vessels, upon the thorough-

and correctness of which the safety of the ships when under way largely depend, and recommendations are made in reference to the condition of the engines and dynamos of electric-lighting plants on ship-board. The necessity of subjecting the revisions of the signal book to practical tests is pointed out, and it is recommended that trials be made with four of the larger tugs for this purpose. In reference to the continuance of ocean surveys, it appears highly desirable that the rocks and shoals reported to exist in the Pacific Ocean and in the Caribbean Sea, but not put down on the charts, should be searched for and located. During the past year many floating wrecks have been reported to the Department, and requests have been received for their removal and destruction. In many instances the presence of these wrecks involves serious danger to property and life, lying as they do in the neighborhood of our large commercial ports or in the track of transatlantic steamers. It is suggested that a small vessel should be employed throughout the year for the destruction of derelicts, thus removing a serious obstacle to navigation and performing a work of great benefit to the commerce of the country.

Attention is especially called to the active movement among officers of the merchant marine, yachtsmen, and others connected with seafaring pursuits, having for its object the formation of a naval reserve, composed of officers and men willing to subject themselves to annual specified drills and temporary service in a sea-going or coast-defense vessel, with or without compensation for the period actually under instruction or service. It is believed that a first reserve, of small numbers, can be composed of officers and men who have passed some years in the regular service, and afterwards have gone into kindred occupations in civil life; but a large and efficient auxiliary force could be obtained with great advantage, as a second reserve, from the merchant marine, the coasting trade of both sea and lake coasts, the fishermen, the Light-House and Life-Saving Services, and from yachtsmen. There seems to be little doubt that a project having for its end the formation and classification of a naval reserve would be favorably received by that large body of Americans who are more or less acquainted with seafaring life, either from necessity or choice, and who are second to none in patriotic desire for the success of our Navy. As the disposition of all classes concerned is now highly favorable to the proposed movement, the present moment is an auspicious one for taking the necessary action.

Attention is called to the insufficiency of the appropriation for navigation supplies referred to in previous reports. With the growing demands of the naval service, it appears that a moderate increase in the provision for this branch of supply is necessary. (Appendix, p. 145.)

HYDROGRAPHIC OFFICE.

The report of the Hydrographer, Commander J. R. Bartlett, shows that the Hydrographic Office has continued during the past year to

maintain its previous high standard of efficiency. In chart construction the work has been mainly directed to the charts of the West Indies, the west coast of Mexico and Central America, and the region of Newfoundland and the Gulf of St. Lawrence.

The set of general sailing charts of the west coast of North America is complete, and that of the west coast of Mexico and Central America is well advanced. The policy of keeping the expenses of the correction of charts down to the lowest possible limit and still maintain their efficiency has been adhered to. At the end of the fiscal year there were 53 engraved plates of charts and 4 miscellaneous plates finished, and 56 new charts on hand unfinished. All the charts from the *Ranger's* survey to the end of the last season are now complete and on issue. The number of copper and steel chart plates available for printing is now 393.

The record of longitudes and the investigations of magnetic variation have been continued with satisfactory results, and the work has been of great service in the settlement of technical questions incident to chart construction. A record of doubtful dangers in the Atlantic Ocean has been prepared, and investigation of the depths of the sea has been continued.

Gnomonic or great-circle sailing charts of the North and South Atlantic have been finished and placed on issue. Similar charts of other oceans will be published as fast as possible. These charts have been received with great favor by ship-masters making long passages, and the highest testimony is given of their accuracy and utility.

The supply of charts to naval vessels has continued as usual, 7,570 Hydrographic Office charts and 4,022 foreign charts having been issued to United States vessels.

Publication has continued as far as the means at the disposal of the office would allow. There can be no question as to the necessity of having a complete set of Sailing Directions published by the Government as soon as possible, and preparations have been made to push this work with great vigor during the coming year. Certain improvements have been made in the Notices to Mariners.

The Pilot Chart, one of the most important of the Hydrographic Office publications, is received with constantly increasing favor, and is now regarded by mariners as indispensable; it has even been used for purposes of instruction in the interior.

The hydrographer dwells on the usefulness of the branch offices in obtaining materials for the Pilot Chart and in other important works of the Hydrographic Office. Additional appropriations are necessary to maintain these offices on a proper footing, and the extraordinary solicitude felt by the maritime community in reference to them makes it highly desirable that their wants should be fully supplied. As an illustration of the remarkable extent of the work performed by these offices, it may be stated that during the past year visits were made under their

direction to 15,000 vessels, 7,000 instruments were adjusted, 4,000 charts corrected, 19,000 Pilot Charts distributed; information was furnished on application to over 100,000 persons engaged in maritime pursuits, and 24,000 reports were collected and forwarded, containing maritime information.

The most important recommendation made by the Hydrographer is that for a separate building for the Hydrographic Office. The greater portion of its operations partakes more of the character of the shop than the office. For this purpose the rooms connected with the clerical offices of the Department are unsuitable, and the use of temporary buildings adjoining involves transportation of plates, resulting in serious injury, which can only be repaired at considerable expense.

The office further recommends the employment of a vessel to carry on a survey of the coast of South America and the West Indies, the undertaking of deep-sea surveys in the Pacific, the determination of reported dangers, and the systematic destruction of derelicts. Application having been made by the local authorities at Norfolk, Va., and Portland, Oreg., for the establishment of branch offices at those places, it would seem desirable that provision should be made as soon as possible for this purpose. (Appendix, p. 165.)

NAVAL OBSERVATORY.

The report of Capt. R. L. Phythian, Superintendent of the Naval Observatory, describes the operations that have been conducted during the past year with the various instruments, including the great and small equatorials and the transit circle, and also that branch of the Observatory work relating to time service and chronometers.

The Observatory having been invited to participate in the proceedings of the congress which was to meet at Paris, April 16, 1887, Lieut. A. G. Winterhalter was detailed by the Department to attend upon its sessions, and was present as representative of the Observatory. During his absence Lieutenant Winterhalter has transmitted interesting and valuable communications which will finally be embodied in his full report.

Plans for the new observatory, which have been prepared by Mr. Richard M. Hunt, of New York, are now completed. As soon as practicable after the completion of the specifications work on the observatory will be begun. (Appendix, p. 211.)

NAVAL WAR RECORDS.

Attention has been called in previous reports to the necessity of increasing the clerical force engaged in the compilation and arrangement of the War Records for publication. The recommendations for the vigorous prosecution of this work are renewed.

NAVAL ACADEMY.

The report of Commander William T. Sampson, Superintendent of the Naval Academy, shows the number of cadets at the opening of the

last academic year, the percentage of failures, and the number now in the Academy, and refers to various improvements which have taken place or been recommended in the course and methods pursued at the institution. Five cadets have been tried for hazing during the past year, in accordance with the provisions of the statute. The salutary effects of this policy are apparent; no cruel or degrading instance of this offense has taken place for a long period; the construction placed upon the law by the court and the Department has effectually suppressed the tendency to this objectionable practice, and it is the Superintendent's intention to bring to trial every form of hazing, no matter how trifling.

In conformity with the act of Congress of May 20, 1886, requiring instruction to be given to cadets in the "physiological effects of alcohol and other stimulants," a new department, that of physiology and hygiene, has been added to the course of study, with the surgeon of the Academy at its head.

Improved text-books on ordnance and gunnery, embracing the latest advances in the science, have been prepared at the Academy and printed for the use of the cadets; a revised edition of the Regulations has been issued; the usual increase has been made to the library; and a novel feature has been introduced in the practice cruise by assigning credit for practical work. It is thought that manual skill in the machine-shop, activity aloft as a sailor, and officer-like bearing in the performance of duty should have a more direct influence in determining class standing than has heretofore been the case.

Although it is the opinion of the Academic Board that important changes should be made in the course of instruction, action on the subject has been postponed until the question of the length of the academic course shall have been decided. It is urgently recommended that the course be reduced to four years, as provided in the bill presented by the naval committee at the last Congress. It is further suggested that those cadets who fail to obtain positions in the naval service after four years at the Academy and two years at sea, are well qualified for positions in the Revenue Marine Service.

The Superintendent dwells upon the importance of selecting suitable seamen for details at the Academy, the close relation between the sailor and the future officer making it a matter of great importance that the men employed for this purpose should be of exceptional character and ability.

Two other important recommendations are made by the Superintendent in connection with the estimates for the coming fiscal year. The first is for an appropriation of \$108,000 for the purchase of 5 acres of land, more or less, which separates the Academy grounds from the rest of the Government property, and thus limits the space available for drills and exercises. The second recommendation to which attention is called is for an appropriation of \$275,000 for a modern practice

pel for use at the Academy, armed with modern guns, and fitted with a modern engine. (Appendix, p. 79.)

BUREAU OF MEDICINE AND SURGERY.

The report of the Surgeon-General of the Navy exhibits the satisfactory condition of this Bureau.

I approve the requests for increased appropriations for "Repairs of the naval hospitals," and for an additional clerk in the pension division of the office.

In accordance with the authority granted at the last session of Congress, a naval sanitarium has been established at Widow's Island, Penobscot Bay, Maine, where a commodious building has been erected with suitable wharf and landing-place. The necessary improvements to the island are being made and will be completed in the coming spring, as well as the interior fitting and furnishing of the hospital. The amount expended will be kept within the sum appropriated for the purpose.

I commend again to the consideration of Congress the representations made as to the necessity of legislation to improve the condition and advantages of the medical corps of the Navy. (Appendix, p. 416.)

MARINE CORPS.

The report of Col. C. G. McCawley, commandant of the Marine Corps, states the number of enlisted men in the Corps on October 1, 1887, as 1,893, of whom 930 were on board ships in commission, and 963 doing duty at shore stations.

A point has now been reached when an increase in the number of officers and men is absolutely required by the demands of the service. It is not possible for the present limited complement to perform efficiently the duties imposed on it. The number of second lieutenants is now 15, and is subject to a further reduction. At the same time promotion in the higher grades is blocked.

The number of enlisted men is also inadequate. At none of the shore stations are there enough men to carry on the duty, and numerous vacancies exist in the guards of vessels which it is impossible to fill. On the Pacific station alone there are no less than 30. The small numbers in the corps and consequent overwork lead to frequent desertions.

In view of these facts, I strongly recommend that the number of officers be increased and that the complement of enlisted men be raised by the addition of 500 privates.

The barracks and quarters at the Norfolk yard are totally inadequate, and at League Island the rotten hulk *Antietam*, lying in the mud with 10 feet of water in her hold appears to be the only place available for quartering the men. Elementary considerations of health and humanity would seem to require an immediate provision for remedying this condition of affairs. (Appendix, p. 451.)

WM. C. WHITNEY,
Secretary of the Navy.

P A P E R S
ACCOMPANYING
THE REPORT OF THE SECRETARY OF THE NAVY

REPORT OF THE ADMIRAL.

OFFICE OF THE ADMIRAL,
Washington, D. C., July 6, 1887

SIR: I beg leave to forward my report for 1887 a little in advance of time, owing to the fact that there are several important matters contained in it relating to the Navy which I hope you may take into consideration.

There are defects in the organization of the Navy, as well as in the ships, which latter at the present moment are reduced to a minimum number, and the subjects now under discussion, if properly settled, will go far towards advancing the Navy, which is open to improvement from several quarters.

These remarks apply to the *personnel* of the Navy as well as to the ships, for no matter how complete the vessels they cannot be efficient unless there is a harmonious working of all their parts. Every department on board a ship of war bears so close a relation to every other that to make a good and solid system requires more than ordinary care that the different branches do not clash. But I am of the opinion that a little forethought on the part of those in authority, a little compromise here and a little there, with the certain establishment of the necessary power in the hands of commanding officers of vessels and commander-in-chief, will make our naval corps the most harmonious body afloat.

NAVAL REGULATIONS.

The first thing required is a proper set of regulations. Those at present in use have been constantly altered and amended during the past eleven years until they have become, in some cases, almost unintelligible, and, without attempting to point out discrepancies, which would make this report too voluminous, I would beg leave to suggest that a board of three or more officers, not below the grade of captain, be charged with the duty of revising the regulations for the Navy. Several boards have been employed on this work, but for some reason or other it has never been satisfactorily completed, and on one occasion, where there was a mixed board, no conclusion was arrived at acceptable to either class of officers composing it. The present regulations do not meet all the cases that come before a commander-in-chief, or a commander of a vessel, and the result is misunderstandings among the different corps each failing to appreciate their respective functions. All this would be brought into proper condition when regulations suited to the "new Navy" which we are promised shall be issued for use in the first ship that sails from the United States.

ENGINEER CORPS.

I beg leave to draw your attention to a matter which, in my opinion and that of many others well qualified to judge, requires the serious consideration of the Navy Department, for as it now stands it is seriously impairing the efficiency of the Navy.

The Navy is made up of different departments, and the duties of each of these are so different that it requires a separate education for the several classes of officers. It has been attempted to combine several of these departments, so that all the duties should be performed by one officer, a kind of economy that must react against the discipline of the Navy and create confusion. In 1866, while I was Superintendent of the Naval Academy, and while the Navy was undergoing a reduction, the condition of the Engineer Corps began to attract serious attention, and it was generally admitted that the officers of the corps were equally with the line officers entitled to the benefit of an education at the Naval Academy, in order that they might cope with the highest branches of engineering and construction, which, at the present day, are so essential to their profession.

A great many utopian theories have been broached in regard to the Engineer Corps and the manner of educating its officers, but of this we may be certain, the profession requires an amount of ability which will secure perfect management of the machinery on which depends the efficiency of our ships of war, for it will not do to trust the main dependence of a vessel to mere tyros without that practical skill which can only be acquired by long and earnest application on shipboard and in machine shops.

When a young man receives an appointment at the Naval Academy it is generally with the idea that he will enter the line, or combatant division, should he graduate, a profession for which his tastes and inclinations suit him, but after leaving the Academy and passing two years at sea, he may find himself, after undergoing an examination, appointed to the Engineer Corps without any knowledge of the duties of that branch, except such as he may have picked up during his four years' service at the Academy and his short cruise at sea. To make a good line officer, engineer, and marine officer, all in one, is hardly within the bounds of possibility. It is as much as one man can do to become a good deck officer, proficient in the management of a ship under sail and steam, and it is this part of the profession that requires all the knowledge of a seaman. It is not probable that an officer will gain a sufficient knowledge of the nautical part of his profession by passing half of his time in the engine room and the other half on deck.

The duties of an engineer officer and of a line officer are entirely distinct from each other, and it would be much better for the Navy for them to remain so, for the attempt to combine these different qualifications in one officer will produce a hybrid, neither a good line officer nor a good engineer. When two men ride a horse one must ride behind, and in a ship of war one class of officers must necessarily have more authority and responsibility than another. This authority naturally falls on the line officer, or combatant, who must always be ready to undertake any duty however perilous, must be full of resources and be equal to all the emergencies of a seaman's life.

To be called "one of the best deck officers in the service" was in former days the highest ambition of an officer, and it will naturally be supposed that an officer with such a reputation would make an equally

good one as captain. This would, however, hardly be the case if to the responsibilities of a deck-officer were added the intricate duties of the engineer department of a ship. It would be as difficult to efficiently combine the duties of line officer and engineer as to mix oil and water—you would have mere superficial persons, jacks-at-all-trades and good at none.

It is the duty of every line officer to know how to navigate and fight his ship, but to do this it is not at all necessary that he should be an engineer or that he should undertake to manage the engines at the same time he was directing operations on deck. In time of battle the services of good engineers are especially required, particularly now that the nations of Europe are building huge steel monsters filled with complicated machinery calculated to puzzle even an expert, to say nothing of an officer who obtained all his knowledge of the subject from the obsolete engine at the Naval Academy, which was put up by myself in 1865 to give the cadets a general idea of a marine engine and how to manage it in time of necessity.

The duties of naval engineers are now of a higher order than have ever before been required of them, and every year adds to the qualifications necessary for the efficiency of this class of officers. Hence it will need all the ability of any man to perfect himself in the profession of a naval engineer, and should our Government adhere to the notion that the present system at Annapolis is the best for educating engineers it will find out its mistake when the new ships come into port badly out of repair or else fail to come into port at all, leaving it to be conjectured whether they went upwards or downwards previous to their final disappearance.

It is no disparagement to the abilities of the line officers of the Navy to say that they cannot become as skillful in the management of engines as persons whose natural talents and inclinations have led them to choose that profession, and there is no doubt that every cadet at the Naval Academy would be much better satisfied to enter the service as a line officer than to be forced into another employment for which he has no taste and in which he will probably never rise above mediocrity.

In the new system of building vessels of war the responsibilities of engineers have greatly increased. It is no longer in the matter of running engines alone that they are called upon to show their efficiency. An engineer must now be able to superintend the various details of construction, testing materials, &c., and it is absolutely necessary that the best combatant seaman officers should be selected for the command of the deck, and the best theoretical and practical engineers for the management and care of the engines. It is by no means necessary that engineers should be trained in seamanship, for, as was demonstrated on a late occasion, when necessity requires it engineers can turn their hands to other duties on shipboard besides those in which they have been professionally educated.

Seamanship is an art that requires all the intelligence, time, and strength of a man to perfect himself in, and notwithstanding the vast importance of steam in ships of war, seamanship should be carefully cherished, since there is a greater demand than ever before for the exercise of its highest knowledge in handling huge ships and maneuvering fleets. For this reason all a line officer's time must be devoted to the study and practice of his own particular profession if he desires to excel. He may secure an intelligent understanding of the theory and practice of the marine steam-engine, but he must not expect to fill the place of an engineer.

In all departments of the Navy it would be well to study the system pursued by mercantile marine companies, who, conducting their business with a view to pecuniary profit, have doubtless given the matter close consideration. No steamship company would accept a mate for an engineer, nor could a person obtain a license for both employments. Only in the Navy would such an idea be tolerated. Even there, in time of war, none but experts would be trusted with the management of the engines, and these could hardly be found among the combatant officers. Engineers are a class *sui generis*, and to keep them thoroughly efficient they should be fitted for their particular line of duty, as is done in the case of line officers and naval constructors.

The advocates of the amphibious officer whom it is proposed to fasten on the Navy, argue that their scheme will promote "harmony" in the service. It certainly will not promote harmony in the working of the engine, and I think it doubtful if it realizes expectations in any other quarter. The safest plan will be to keep the Engineer Corps intact and give its officers every opportunity to perfect themselves in the higher branches of their profession, of which they should be proud, not only for what it has accomplished in the past, but for what it will be able to do in the future, now that occasion is afforded for a free scope for their usefulness.

An act of Congress, approved July 4, 1864, authorized the Secretary of the Navy "to provide by regulations to be issued by him for the education of such midshipmen or others, at the Naval Academy, as show a peculiar aptitude therefor as naval constructors or civil or steam engineers, and may form a separate class for this purpose, to be styled cadet engineers, or otherwise afford to such persons all proper facilities for such a scientific mechanical education as will fit them for such profession."

At the time this law was enacted there were no facilities for carrying out its provisions, and the then Secretary of the Navy did not deem it advisable to introduce a new system into the Navy while so many of the best practical engineers were volunteering for the service. In 1866, however, while I was superintendent of the Naval Academy, Mr. Secretary Welles, at my recommendation, established a class there, including sixteen third assistant engineers and four cadet engineers. All the former had been students at the best schools of technology, notably that at Boston.

This class was farther advanced in mathematics, mechanical drawing, &c., than any that has ever been at the Naval Academy, and in these subjects could obtain no farther instruction at Annapolis. The formation of this class was a step in the right direction. The sixteen third assistant engineers from the schools of technology all passed a most creditable examination, and were absorbed into the Navy. The cadet engineers did not turn out so well, as two of them were rejected on their final examination, and but one of them is now in the service. The plan of forming a class of engineers at the Naval Academy, composed of young men who have graduated at the best schools of technology, is undoubtedly the wisest, in order to promote the efficiency of the Engineer Corps of the Navy; and the vacancies occasioned by death, resignation, retirement, &c., should be filled in this way.

The act appropriating for the support of the Navy, approved August 5, 1882, was a serious blow at the efficiency of the service. It was not intended that the part relating to the Engineer Corps should go into effect, and the best interests of all concerned would be promoted by its repeal. Common sense tells us that the members of a profession who

are required to manage machinery of the most intricate kind should have the opportunity to receive a training adequate to their duties. This can only be secured by a course at the best schools of technology and a training in machine shops, in addition to a term of two years at the Naval Academy, supplemented by a course of instruction abroad. The course of instruction abroad will assist very much in forming what is greatly needed in the Navy—a class of engineer constructors; but it should always be borne in mind that the knowledge of the marine engine, with its many intricacies, cannot be readily mastered, and the grandest instrument in the world is best left to those whose whole time and attention is devoted to developing its progress.

Engineers should superintend the construction of engines and manage them; constructors should design and build ships, and line officers should manage the vessels when they are ready for sea. Such an arrangement of duties will be more apt to insure “harmony” in the Navy than the plan which is now in operation.

COAST DEFENSES.

Since the adjournment of Congress the press of the country has urged, with a unanimity never before exhibited, the necessity of putting the nation in a state of defense.

We are no better off to-day in the matter of ships of war than we were in July, 1883, when contracts were awarded for building the Chicago, Boston, Atlanta, and Dolphin. This was nearly four years ago and none of the above-named vessels can yet be called “completed,” which proves that it takes a long time to build steel vessels of war, and that by following the methods heretofore pursued it will take many years to build up a Navy even of moderate size, and that if we wish to place the country in a state of defense within a reasonable time we must proceed on a more rapid system.

That we shall soon be obliged to have an efficient Navy does not admit of doubt, and while we are undertaking to repair the negligence of the past twenty-five years we might as well endeavor to do it with the intelligence and rapidity of which our people are capable. We cannot, like England and some other nations, depend much on the assistance of our ocean steamers in time of war, as we have too few of these to rely on, and such vessels as we have in the coasting trade, with few exceptions, have not the strength to undergo the wear and tear required of ships of war.

I refer to this matter because many of our legislators seem to be under the impression that our coast-wise steamers can be converted into vessels of war in case of an emergency. They can, no doubt, be utilized in some instances, but taking into consideration their general light construction and the want of protection for their engines, our present American merchant vessels will play a very inferior part in war with a first class naval power. Eventually, under the fostering care of our Government, our merchant steamers may be so constructed as to be readily utilized in time of war, but up to the present writing no step has been taken to resuscitate an ocean commerce that might become of the utmost importance to us in time of war.

When we reflect upon the guns and ships that are being built abroad, it is almost enough to deter us from attempting to compete with foreign nations. In 1863-'64 we led them all and made a complete revolution in the construction of vessels of war, and I am satisfied that we are competent to do so again if we trust our own mechanical genius and

take those long strides in ship-building and gunnery for which we were once famous. When a foreign Government builds an exceptionally fast vessel or an exceptionally good gun we should go to work and endeavor to exceed it, however difficult the task may appear.

From a late number of a New York paper, I take the following extract:

Every year the weight of European ordnance is increased. One of the latest Krupps is a 139-ton gun 52½ feet in length, employing 1,069 pounds of prismatic powder in a service charge, and discharging a projectile of 2,314 pounds, capable of penetrating wrought-iron plates nearly 4 feet in thickness. Not satisfied with this achievement the gunmakers are planning another monster, which is to weigh 150 tons and to fire a 1½ ton shell. The penetrating power of artillery has been increased tenfold within twenty years and the maximum point of efficiency is still a matter of conjecture.

The futility of attempts to defend the American seaboard with costly fortifications, when the weight, caliber, and destructive power of modern ordnance are increasing year by year, needs no extended demonstration. A defenseless country requires big guns and fully-equipped gun factories, but permanent fortifications are out of the question in the progressive state of military science.

The above is a text on which an instructive commentary might be written. It suggests that instead of relying on a weak class of vessels, which some persons suppose will be sufficient for our necessities, we shall have to depend for the defense of our coasts on ships large enough to carry these immense pieces of ordnance.

For the full protection of the coast there should be three lines of defenses: First, the outer line, combining the heaviest iron-clads, guns, and torpedo boats; second, fortifications, on which the vessels can fall back in case of reverse; third, an army to meet the enemy in case he attempts a landing; but it may be remarked that without the first line the second and third will be of very little use. This is a fact which requires no demonstration. It is recognized by all foreign powers and must be by our Government, should the latter ever seriously undertake the defense of our seaboard.

There seems to be a substantial unanimity among all political parties in favor of placing the country in a proper state of defense. Therefore, it is difficult to understand why the work is not done, or why money is so sparingly appropriated by Congress that we make little or no headway, when every establishment with means at hand to build a vessel of war and every navy-yard that has the plant should be set to work to increase the number of vessels in the Navy.

When we examine the many elaborate reports that have been made within the last four years in relation to our national defenses, and read the uniform testimony given by naval officers who are well informed on the subject, together with that of officers of the Army and eminent civilians, it seems to me that the weakness of our condition should be viewed by the country with more gravity than has hitherto been the case.

At this moment the following-named harbors are entirely defenseless against a single armor-clad: New York, Boston, San Francisco, lake ports, Hampton Roads and Norfolk, New Orleans, Philadelphia, Washington, Baltimore, Portland, Me., Rhode Island ports, Key West, Charleston, Mobile, Savannah, Galveston, Pensacola, Wilmington, N. C., San Diego, Cal., and Portsmouth, N. H., to say nothing of many other places of greater or less importance.

Without exaggeration, two heavy armor-clads could commence at the easternmost one of the above-named ports and proceed along the coast to Texas, laying them all under contribution. We claim to possess a certain amount of defense in the shape of torpedoes, but in time of war

they would be useless in the absence of proper fortifications and guns, more particularly in default of an armor-clad fleet.

We have so much to do in the way of building forts and ships and making guns for the land and naval defenses, and have so little time to do it all in, that it will be well to compare our national defenses with those of some other power, to show what others have done while we have been taking our repose. Our people seem to think that we are so far removed from Europe that we are beyond the reach of its armies and navies, forgetting that it is possible to step on board one of the great ocean grayhounds at New York on Monday morning and land in England on Saturday night; and although we might not be assailed quite so rapidly as that, the mere fact that it takes so little time under favorable circumstances to cross the Atlantic shows how short is the distance between ourselves and the possessors of the heaviest ships and guns.

We may keep clear of entangling alliances, but, no matter what our desires may be, we cannot avoid complications with foreign powers. We have an experience of this sort at the present time, and no one can tell whether the small cloud now gathering on the eastern horizon may not soon extend over the whole heavens. War often comes when least expected, and, even when anticipated, those who look forward to it can hardly realize that it is coming until it is upon them. For the event of war we are no more prepared than we were a year ago, although it is true we have made a beginning to repair simply the waste in our Navy for the last twenty-five years.

To show how little attention is paid to the defense of our coasts, I beg leave to exhibit to you, for the purpose of contrast, the weight that is attached to these matters abroad. The statement will show the country how much behindhand we are in regard to that on which our honor and safety depends as compared with those even who have less at stake than ourselves.

To take Great Britain as an example, with the coasts and harbors of the British Islands included between latitude 50° and 59° north and longitude 2° east and 11° west. The area of the British Islands is 116,840 square miles, while that of the United States is 3,602,990 square miles; that is, the size of these islands, the center of the imperial power, is thirty-one times less than the area of the United States. Please notice the difference in the care taken to protect the homes of British subjects from that given to guard the citizens of the United States, who, relying on the protection that they suppose will be afforded them, have built up great cities all along our coast and dotted the intermediate territory with homesteads, all of which are at the mercy of a foreign foe.

The geographical situation of the British Islands gives them a guarantee of independence and protection to their inhabitants greater than any other people enjoy, but this would not avail were it not for the indomitable energy of the Britons, who, occupying a strong position in the first place, have left nothing undone to render it impregnable. The same reasons that exist for the elaborate defenses of Great Britain obtain in this country in an equal degree. We are very much alike in many respects, both being naturally great commercial nations, desirous to carry our products to every part of the world, Great Britain succeeding in all she undertakes, and we constantly failing for want of that Governmental protection which every people have a right to claim.

Great Britain is separated from the continent of Europe by a wide moat, which enables her to defy attack. Her principal ports bristle with guns of the latest pattern, mounted on the most approved fortifi-

cations, while the moat and all its surroundings is guarded by the following :

Class.	No. of vessels.	No. of guns.
Armored turret ships	26	171
Armored barbettes ships	9	90
Armored casemate ships	10	137
Belted cruisers	8	93
Torpedo rams	2	2
Unarmored cruisers	62	724
Gun vessels and cruising gunboats	65	271
Gunboats for coast and river service	40	64
Total	222	1,572

These embrace all classes from the 110-ton (16½-inch) to the 20-pounder howitzer. In addition, the English navy is provided with 153 torpedo vessels of all classes, some of which are armed with small rifled cannon (6-inch or less), and nearly all carry machine guns. It will be observed that no account is taken of the older classes of ships, of which, according to a French author, there are 336 steamers and 120 sailing ships, fully capable of giving a good account of themselves.

The United States is separated from Europe by a wide moat, but this, instead of being a protection, is a disadvantage. The ocean affords a highway upon which, unseen until close upon us, an enemy can marshal his hosts and attack us in fifty vulnerable points at once. A war against us would terminate very quickly, as, without ships or guns, what could we do?

The forces charged with the defense of Great Britain's impregnable fortresses comprise the coast-guard fleet, the Channel fleet, and the land defenses, which are at all times ready for service and are never permitted to fall off in strength or efficiency. This system may be compared to that of a city with policemen on their beats, while ours is like the old plan, where superannuated watchmen dozed away a night on a door-step. The movable land forces of Great Britain are confined to special troops always ready to be forwarded to threatened points at short notice. The Channel fleet constitutes a reserve of heavy armor-clads, torpedo vessels, and fast dispatch vessels, ready at all times to proceed to any indicated point. Under these circumstances, the British can afford to await attack, while their naval forces elsewhere are ready to add their strength to those above mentioned. Any attempt made by a foreign power against the British islands would probably result in the destruction of the attacking fleet, which might not even have the opportunity to bombard the land fortifications or throw destructive missiles into the seaboard cities.

Now, sir; the first step towards the protection of our coasts should be the construction of a squadron of heavy armor-clads, that could be ready at a week's notice to anchor off our shores and resist an approaching enemy. If defeated, this force could retire to the protection of the forts, where, united, they would probably offer more than twice the resistance they could offer singly. I call these defenses the great line of protection, which, if broken, would render the attack of an enemy no longer doubtful. I want to see the possibility of such a result prevented, and to have our nation of sixty millions of intelligent people placed in such a position that the strongest powers of Europe could not prevail against them.

The first element of success in this undertaking is the construction of a proper fleet of armor-clads, while experimenting with fast cruisers, for although the latter will have their appropriate place in time of war, they can never, by themselves alone, keep an enemy's fleet from our shores. Armor-clads are very expensive articles, but who shall count the cost of a Navy to such a country as ours, for when that right arm of the national defense is properly organized and built up again, the world will be careful not to assail us, and the inhabitants of our seaboard towns and cities will be secure from an enemy's shot and shell.

At the present writing it would be impossible for any power to invade England, unless the British fleet could first be destroyed, and this fleet is of such strength that no European nation could contest its superiority. About the time of the breaking out of our civil war the appearance of rifled guns in service caused the English Government to reflect on the condition of their land defenses, which had become somewhat dilapidated. They had such confidence in their great fleets that they were disposed to undervalue the necessity of guns on shore, but now they saw the need of fortifying their coasts in a modern manner. Heretofore the navy had been, as we may say, the sole dependence of the people of Great Britain against invasion, and was entirely competent to the duty. Without the navy the guns of the land defenses would have been comparatively useless.

When the events of war in the United States made it evident that the character of naval ships and guns must change, Great Britain and the other countries commenced building powerful iron-clads and forts, making a complete alteration in their national defenses, while we, exhibiting an apathy not warranted by the circumstances of the case, permitted our Navy and land fortifications to go to ruin, a fact that is generally taken to mean that the nation itself is falling into decay. Dilapidated forts, obsolete guns, worthless ships, in short, an absence of warlike appliances, are among the things which denote the decadence of a country, and such signs should not exist in a nation like this, which in so many other ways is quite up to the world's standard.

In the short period between 1861 and 1872, during which time the British Government was employed in strengthening their fleet and covering the coasts from the approaches of an enemy, some \$60,000,000 was expended on land defenses alone, to say nothing of the navy. National defenses are costly, and more so in this country than elsewhere, but they are necessities not to be dispensed with. Once built and properly cared for, they will endure for a great length of time, and they will secure the honor of the nation, which should be paramount to every other consideration.

It is not likely that the present system of ships, ordnance, and fortifications will undergo any radical changes within the next decade. The greatest advance in ship construction will probably be in the way of speed, so that a few years hence a first-class ship of war, in my opinion, will have a speed of 23 knots. Notwithstanding her huge armored navy, Great Britain is not disposed to run any risks, as she is constantly strengthening her forts or adjuncts, behind which the ships can retire in case of necessity.

Compare what Great Britain has done in a few years with what we have failed to do. At the present time among the strong points on the coast of Great Britain are Lowestoff, defended by three heavy forts; Harwich, at the mouth of the Stour; the estuary of the Thames and that of the Medway, protected by the batteries of Shoeburyness, the

works on the island of Grain, and, at Sheerness, with a second line of defense on the Thames, consisting of six forts below Gravesend.

The fortifications of Dover are founded upon the works of past ages, armed with the latest style of ordnance, at a cost of \$3,000,000.

The roadstead of Portland is defended by heavy batteries and armored works, overlooked by Verner citadel, and further protected by the forts at Weymouth.

The works erected up to 1870 for the defense of Plymouth cost over \$7,000,000. The entrance is defended by Forts Cawsand and Picklecomb, a heavy work on the breakwater; Fort Bovisand, the batteries on Saint Nicholas Island, those of Eastern King and Western King, and, finally, by the Garden Batteries, altogether forming a chain of works of which in this country we have no conception. The fortifications are of granite, with walls nearly 10 feet in thickness, and proof against the heavy projectiles of modern war vessels. The embrasures of the forts are covered with shields of the Drummond-Jervis type, 60 centimeters in thickness. The armament is composed of 150 heavy rifled guns that will pierce naval armor of 30 centimeters thickness at a distance of 2,000 yards. Such works as these are truly formidable and, with the aid of a small naval force, sufficient to prevent a good-sized fleet from effecting an entrance. The English, with their powerful fleets, may not need all these land batteries, but they go on the principle that an ounce of prevention is worth a pound of cure, and the presence of such works prevents attack.

The land side of this maritime establishment is as well protected as the water front. On a strong position between the rivers Plym and Tamar are 16 detached forts, 160 feet above the sea-level. On the culminating point of these great works stands Fort Crownhill, armed with 38 heavy guns. It will be noticed what importance one nation attaches to the protection of her maritime establishment, while we, with as much at stake, attach apparently no importance whatever. We have seen how Plymouth is defended, while the navy-yard at New York, our largest establishment of the kind, and costing of itself over \$20,000,000, is not protected by a single gun of recent pattern.

The naval establishment would, of course, be the first thing aimed at by an enemy, and the forts at the Narrows could not prevent the passage of a couple of good iron-clads to New York City. We have but one harbor from which an enemy's fleet seeking protection in bad weather could be excluded, and that is Hampton Roads. The defenses of this place, although once formidable, are not suitable to the necessities imposed by modern warfare, and an enemy's fleet of heavy armor-clads could anchor with impunity within range of the guns of Fort Monroe.

Pembroke roadstead, in Great Britain, is defended by the most powerful works, sufficient to drive off any fleet. The estuary of the Mersey, leading to the port of Liverpool, is thoroughly guarded by armored forts.

Portsmouth, like Plymouth, is fortified with all the science of war. In late years a line of detached forts has been erected, 1,000 yards apart, each of which is armed with eighty pieces of ordnance of large caliber. This is a style of defense of which we seem to have no idea, and the necessity of it will probably occur only with the near approach of danger.

The forts above mentioned, not being considered sufficient to give the dock-yard perfect protection, a second line of defense has been erected nearer the sea, which is probably as formidable as the other. Then let us look at the entrance of the harbor. On the west side it is

defended by Fort Monckton and Block-House Fort, while on the side the defenses comprise King's Bastion, the battery of South Castle (32 heavy guns), Lump's battery (14 guns), the two batteries Eastney, and, finally, Fort Cumberland, which also protects the entrance into Langston Bay. All these works combine their action with the "sea forts," Spithead and Horse-Sand, which would render it impossible for an enemy to land troops to attack this important naval depot. At the west end of the Isle of Wight is the Solent channel, which is narrow and well defended by the cross-fire of a considerable number of batteries, while the eastern passage to Spithead Roads is protected by the fire of four large armored forts built in the sea on sand-banks: Forts Spit-Sand, Horse-Sand, No-Man-Sand, and St. Helena. This last, which joins with Fort Bembridge in defending Brading Bay, is armed with 15 rifled cannon of the largest caliber in casemates and also furnished with two turrets.

England depends on her navy to do the real work of defense, and that principle should govern this country also. We are essentially a maritime nation, and likely to become a great commercial one, and our marine interests simply require the fostering care extended by foreign powers to place us on a par with the most powerful.

It would require a greater space than the limits of this document to particularize what other nations have done, and what we have failed to do, but there is scarcely a point in Great Britain where an enemy could land that is not protected with adequate land defenses, strong as their navy is considered to be, and in case of war-clouds appearing on the horizon, the people are not thrown into a panic, for they feel that their country is secure from invasion. This statement applies not only to Great Britain proper, but also to her possessions abroad. What has been done by Great Britain has already cost many millions of dollars, and will cost many millions more, but such an investment is the best that any country can make.

To place our country in condition to protect the seaboard, to have ships that can bid defiance to European navies, in short, to adopt a complete system of national defense, will require an immense amount of money, but no nation can better afford it, which makes our apathy seem all the more strange. Comparatively few of our legislators are military men, and with the many matters which engross their time, it is hardly to be expected that they should be fully acquainted with the requirements for national defense, and vote large sums of money for ships and forts, the necessity for which is not, to them, apparent; hence it behooves every military and naval officer to do his utmost to lay before members of Congress such information as will assist them in forming just conclusions in regard to a subject of such vital importance to the country.

On the whole, Congress has been liberal to the Navy, when we take into consideration the fact that the ship-builders of the country have not offered such facilities for constructing vessels of war as would have been expected of so intelligent a class of citizens. Up to this time Congress has had no assurance that ships would be built in due season, even if money was appropriated, but all that will mend when the ship-builders of the United States feel that there is a determination on the part of Congress to construct a new Navy. Capital will come forth from its hiding places and ship-building establishments will spring up in many ports where they do not now exist, while those already in being will assume greater proportions.

One great source of the national strength lies in our ship-yards, and now that steel has taken the place of wood, in them are the foundations

of our naval defense. The more good ship-yards we have, the better able we will be to conquer if war is forced upon us. It therefore behooves Congress to make larger appropriations in order to have more yards employed at the same time, for it is just as easy to construct two vessels as it is one; and at this moment, when there is a depression in the building interest, it would infuse new life into many industries throughout the country to give the ship-builders such a start as would establish them on a substantial basis. So many other interests are connected with ship construction proper that the United States would feel the reaction from one end to the other.

When these yards once begin to enlarge and to employ great numbers of workmen throughout the year, there will come a reaction from another quarter. Ships will become cheaper, and our people will invest their money in steam vessels until, like Great Britain, we have a first-class steam mercantile marine, which would be a great assistance to the Navy in time of war.

We have seen, on a late occasion, when England was threatened with war by a great nation, how she immediately converted a dozen or more fast transatlantic steamships into vessels of war, and peace was soon assured. The value to the United States of fostering private ship-yards cannot be overestimated, for unless we pursue this policy we will some day find ourselves in a condition where it will be impossible for us to maintain the national honor.

At this time there is real distress felt in our private ship-building establishments all over the country, and, as a public man, you must be aware how necessary it is for the Government to foster private works on which so much depends, for even in so small a matter as the gradual increase of our Navy, it would be impracticable to use the several navy-yards in their present condition to construct steel ships. They could better be used for equipping ships after they are built, as when once more we have a supply of naval vessels, it will be as much as our navy-yards can do to fit them out and keep them in repair.

It would be advisable for the Government to keep always on duty in the different navy-yards a class of skilled mechanics. If these are not sure of permanent employment they will naturally stray away to better locations. It is a loss to the Government to frequently change its employes, and it will therefore be well to have as much of the work done at the navy-yards as they are capable of performing. It is not only a large number of mechanics who are thrown out of employment at our private ship-yards who are now suffering, but also those who depend on the Government yards, and if at this moment Congress would embrace the opportunity to build up the Navy, it could be done cheaper than would be possible in a few years from now. If it was known that a fixed amount, say \$10,000,000, would be appropriated every year until the Navy was in a condition to meet the requirements of the country, we should in a few years possess a class of mechanics not excelled by any in the world.

How much better it would be for us to support a class of skilled mechanics to enrich the country with their labor and build up the national defenses than to do as some other nations are doing and support large bodies of idle soldiery. Our Treasury is filled with gold, and it seems contrary to common sense to have it lying useless in the vaults when there are so many of the sons of toil unemployed and such vast quantities of material unused. The mechanics of the country, by the exercise of their skill, would turn all the materials to good account in the

construction of steel or iron ships and every blow they struck would be a blow for the protection of their country.

There would be another object gained by the Government fostering private ship-yards, it would place them nearer an equality with those of Great Britain, and nations on the American continent, instead of going abroad to have ships built, would come to the United States. A new industry would be opened to us, for the difference in price would be so small that the people of the Western continent would prefer to purchase their ships in this country.

It is a well-known fact that the variation in strength between English and American iron is much in favor of the latter. The tensile strength of English iron is 45,000 pounds to the square inch, while American iron will bear a strain of 60,000 pounds. This great superiority in material, taken in connection with cheaper production in the United States, which will result from increasing facilities as the Government encourages private ship-yards, will make this country a market for the purchase of ships fairly competing with Great Britain. Should Great Britain become involved in a European war, her ship-builders will have as much as they can do, and then our own will have an opportunity.

History repeats itself about every twenty-five years, and there is no reason why Americans, who formerly built the finest ships in the world and covered the ocean with their commerce, should not do so again. It cannot be possible that a people who lately held a foremost maritime position have so degenerated that they are willing to see the grand prize wrenched from their grasp without a struggle to regain that prestige, once their greatest pride. The ship-yards on the Pacific coast, of all places, should receive the encouragement of the Government, since in that quarter our naval defenses are especially weak.

San Francisco is at this moment open to the attack of any ordinary foe, and the same is true of every town along that coast. In case of war the highway to China and Japan would be closed against us, and the great railroads, built under the plea of bringing the commerce of the East through the United States, would fail in the objects for which they were designed.

The vast regions of Oregon and Washington Territory have not an effective gun mounted along their shores, and although we claim the ownership of the country it is ours only as long as we remain at peace, for, in case of hostilities, almost any power could hoist its flag on our northwest coast under the guns of a few ships. Our magnificent inland waters, including the Straits of Fuca, Haro, Rosario, and Puget Sound, with the numerous harbors and islands, are all at the mercy of any power that chooses to take them, and a country which forms a part of our great Anglo-Saxon empire is as unprotected as if it belonged to the Fiji Islanders.

In time of war, the ports on our Northwest coast would be so many harbors of refuge for an enemy in which to refit and procure supplies and then operate against our territory. Independently of the outlying islands on our coast and the British possessions, from which this country can be assailed in time of war, and where British fleets can refit and carry on operations against the United States, Great Britain has established at Esquimalt, on the Strait of Fuca, a naval depot provided with guns of the heaviest caliber and surrounded by strong permanent fortifications. Mark the difference between the action of Great Britain and that of the United States. See how the former stretches her arm over her possessions and secures them from invasion. Even if

obscure places she builds forts and dock-yards in order to maintain fleets ready to act in any required direction.

What effect the action of Great Britain near our Northwest possessions may have in the future it is impossible to foresee, but if there is a necessity for such preparations on one side of the line, there should be a corresponding manifestation on the other. Of course any nation has a right to build on her own soil such forts, arsenals, and dock-yards as she may think proper, and Great Britain is only doing what the United States should do. In twenty years from to-day the Northwest coast will be peopled with a million inhabitants claiming the protection of the American flag, and perhaps failing to secure it when most needed. At present we have not a vessel deserving the title of "ship of war" on the coast.

Mare Island should be made the central naval depot for our possessions on the Pacific. We should quadruple the working capacity of the navy-yard at that place, and build enough dry-docks to accommodate a large naval force. We should do all that an intelligent people would deem it desirable to do, and above all should attend to the land defenses in that quarter.

Land defenses at present do not hold the same position or carry the same weight as in former days when ships were mostly of wood, and one gun on a fort was considered a match for five on shipboard. During the last quarter of a century iron and steel monsters with impenetrable hulls have been constructed, carrying guns up to one hundred and ten tons in weight, firing a projectile of eighteen hundred pounds, with an extreme range of nine and three-quarters statute miles. The character of war is changed, and instead of ships having to depend on forts, forts will have to depend upon ships to assist them in extremity. When the outer line of defense, the naval force, is broken by the enemy, it will have to fall back upon the forts, or take up a position in channels only known to pilots and assist the forts with a cross fire the enemy might not be able to stand. At all events the enemy's ships could not take position to enfilade the weak points of land defenses while a force of heavy armor-clads was enfilading them at the same time. This will explain why a fort can be made so very much more formidable by the addition of a naval force which can shift its position; therefore, although great necessity exists for land defenses on the coast of the United States, as elsewhere, it is plain that it would be folly to depend solely on them.

Hence I would advise that we do not lose any time in building an armor-clad fleet while we are constructing steel cruisers, for without armored vessels our forts would be comparatively useless to defend our harbors or points from which our great cities could be assailed.

San Francisco is a place that an enemy could attack from outside the entrance to the port. Now, here is our chief city on the Pacific coast, with a population of a quarter of a million, with no defenses at all worthy of the name. San Francisco has one of the finest harbors in the world, with ample depth of water for the largest class of ships. As matters stand at present, the Bay of San Francisco could be entered by an enemy's fleet and the surrounding country laid waste, and even if the entrance to the harbor is properly defended by forts, the city could be shelled from outside the heads near Point Lobos.

This is an example of a city that cannot depend upon its forts no matter how strong they may be, and this great emporium of our trade with the Indies would be at the mercy of a ship of war with one or two high powered guns on board. This would be a sad state of affairs in

deed, and would speak badly for the intelligence of our people in making proper preparations for war.

The circumstances of her case require San Francisco to have the best equipped naval establishment in the country. Four of the heaviest armor-clads should be built and equipped with the most approved ordnance for the defense of the city. The Union Iron Works would be capable of fulfilling the contract, and in four years, which is the shortest time in which the work could be completed, we would not only have a powerful floating defense for the northwest coast but the constructing company would be provided with a plant that would enable it to carry on all the work required by the Government. It is reported that the Union Iron Works are proposing to erect a plant that will produce all kinds of manufactures in steel, and, if possible, to rival Krupp's great foundry—an additional reason for protecting San Francisco so that such an important manufacturing place would be secure.

The naval force I have proposed for the defense of San Francisco is little enough for such a city and for a State that has added so many hundreds of millions of dollars to our national wealth.

New York is the commercial metropolis of the Union, where the wealth of the country is centered. At this place an enemy would strike his first blow, yet here we are least prepared, all things considered, for defense. The great bay below the Narrows and behind Sandy Hook would at present offer safe rendezvous for a hostile fleet, for we have not a single gun to prevent its advance, and the harbor would be hermetically sealed.

It has been proposed to defend the entrance by Sandy Hook with 400 guns. That is a good idea, but the East channel still offers a high way having 27 feet of water at mean high water, and 30 feet at spring tides. This channel is over 3 miles from where a fort could be erected at Sandy Hook, and it can easily be understood that little attention would be paid by a fleet of armor-clads to a series of fortifications so far away, as they would only be liable to damage from chance shots. Unless the channel at the Narrows was obstructed, the armored fleet could steam into the harbor of New York, for only part of the guns at the Narrows could be brought to bear on ships approaching by the East channel.

This is one view of the case; but if a fleet of enemy's armor-clads assembled off the harbor of New York, it would not be necessary for them to enter the harbor proper to enable them to bombard the city. Within a short distance of Coney Island is a "pocket," open to the sea, with not less than 31 feet therein at high water. In this "pocket" a fleet could ride in safety and with guns of the present type, for instance the 16½-inch (110-ton) rifle, they could throw projectiles to a distance of nearly ten miles. This would embrace a large part of the city of New York; Brooklyn, including the navy-yard and the Brooklyn Bridge; part of Jersey City, including the Southern railroad docks; nearly all of Staten Island; Bergen Neck, and many other important points.

It would be a one-sided affair altogether, for the enemy's ships would be so far out of reach of the guns at the "Narrows" that they would be likely to receive little damage, presenting, at a distance of five or six miles but small shifting targets for our artillery, while the armor-clads would have an immense area over which to distribute their shells, including three cities. This shows that it is impossible to protect New York by forts alone, and that we must have there the heaviest armor-clads, mounting the most powerful guns, to guard against all contingencies. We would have no difficulty in building such ships for coast and harbor

defense to carry even the 110-ton rifled gun, as they would not be cruising ships proper, but could proceed from one part of our coast to another to defend particular points or drive off the enemy from places where he may have sought shelter.

In providing for a navy the most indispensable part should be first attended to. A nation should be able to protect itself before taking the initiative against an enemy's commerce. The same conditions do not prevail at present as in 1812 when we covered the seas with small and swift privateers to prey on the commerce of Great Britain. Many of these vessels could outsail fast frigates. Privateering in those days was at a premium, for most of the prizes could be got into port. At the present time, if prizes were captured by private armed vessels they would have to be destroyed. This would not pay the owners of letters-of-marque, and Congress would be obliged to give a heavy bonus for such vessels, which would lead to many complications. Besides, private armed steamers could not keep the sea for want of coal and would soon be swept from the ocean by the "commerce-destroyers" that would be sent against them. It is not likely that the part of the *Alabama* will ever again be played except against a nation that has no ships to protect her commerce, a contingency that is not likely to occur.

Taking this view of the matter, I earnestly recommend that while we are building swift and powerful cruisers, we should at the same time construct a fleet of heavy armor-clads. The latter vessels, when built, will outlast all the present generation if laid up in fresh water and properly cared for. There will be no decay in them as was the case in the old-time wooden ships, the average life of which was not over eight years, consequently the large annual expenditure of money for repairs will not be required as in the old vessels when the hull was pulled to pieces and as much money spent as would have been required for an entire new vessel. That day is over, and the Navy will no longer suffer from the heavy bills for "repairs" which once ran the expenses up to so large a figure.

Ships once laid up require nothing more than an occasional coat of paint and the ordinary repairs of engines when vessels return from a cruise. There will be no large gang of mechanics ready to bore into a wooden hull to find decayed spots. Now that the steel plates defy the blacksmith's cold-chisel there will be little repairing of hulls, and no such bills as were paid in 1864, when \$24,000,000 were spent in the repair and preservation of our naval vessels, and in 1870, when nearly \$4,000,000 more were similarly expended. The repairing necessary for wooden vessels made a great leak in the naval appropriations which could not be avoided; but the building of heavy armor-clads, such as I recommend, will do away with such expenses, and in ten years forty millions of money will be saved to the Government, a sum quite equal to the cost of the armored ships themselves.

This is a practical and economical view of the matter, but a higher view than that should be taken by the American people: the duty they owe themselves in protecting their flag, their soil, and their honor, and showing the world that they have a proper sense of the value of all these things.

What I have said concerning the defenses of New York applies in a still stronger degree to Boston. That city, up to within a few years past, was proof against an enemy's fleet, but the first heavy rifled guns that were put afloat rendered useless the batteries in Boston Harbor except for the firing of salutes. A single enemy's ship armed with a high-powered gun would have a fine target in the dome of the State

House and could drop incendiary shells into every hole and corner of the ancient city—the cradle of liberty.

I do not profess to have any more patriotism than any other citizen, but I must say I am surprised that the citizens of Massachusetts, whose whole coast is open to the inroads of an enemy, have not shown more solicitude in regard to their unprotected condition and have not made more urgent demands on Congress to protect their cities and towns. An enemy's fleet will no longer need to enter the harbor of Boston, for it could lie outside Deer Island and make its demands. The fleet would run no risk from sunken torpedoes; indeed, those torpedoes, which lose so much of their value in presence of a heavy navy, force provided with appliances for their removal, might as well not be planted unless backed by armor-clads and torpedo boats in sufficient numbers. Now, at Boston, the second commercial city of the Union, heavy armored vessels are as essential as at New York; but why moderate, when it is as plain as daylight that all along our coasts an armor-clad system must constitute our first line of defense, which, driven in, will fall back upon the fortifications and make our harbor secure, provided our forts are properly constructed and armed?

It took Great Britain, France, and Germany ten years to place their sea-coasts in condition to repel ordinary attacks, and it will require our energy and skill to place our defenses on a footing to insure us partial safety, and, be it remembered, we are actually doing nothing in that direction at the present time. In case of war much will be demanded of the Navy; but at present we have nothing to work with. With forty heavy armor-clads and sixty powerful cruisers the officers of the Navy might hope to give a good account of themselves. They will always be demanded of them by the American people, no matter under how adverse circumstances the Navy may have to fight.

Some people talk about "a small but efficient Navy," as if any navy in these days could be small and efficient at the same time. The excellence of a navy depends not only on the efficiency of its ships, but also in the possession of a sufficient number to carry out a decisive policy. We might with better propriety use the expression "a small but efficient Army," for our Army, though absurdly small, can readily be enlarged, since our militia system enables us to create a land force in a wonderfully brief space of time. That we have so small an Army, maintained at so little cost compared with other nations of our commercial importance, is an additional reason why a larger amount of money should be given to the Navy, so that we may at least have one arm of the national defense on which to depend in time of peril.

This is a matter in which the whole country is interested. It is a national, not a political, question, and although naval officers may hope for future benefit when they will be able in time of peace to learn the management of the great ships they will be called upon to take into action in time of war, yet not one of them should feel any more interest in seeing the Navy built up than the humblest citizen who has a proper pride in the history of our country.

ENROLLMENT OF SEAMEN.

In the power given by the Constitution to Congress to maintain the Navy is included the power to take advantage of everything that will help to make that maintenance complete. Particularly after ships have been built there should be no obstacles in the way of manning them. The Government must, of course, depend on the mercantile mar-

to man the Navy, and the seamen of the mercantile marine are as much bound by compulsory service if they fail to volunteer as the militia is bound for military duty, yet up to the present time there has been no permanent act for the enrollment of seamen in accordance with these ideas.

In case of war we might or might not obtain a supply of seamen for our ships. It would depend upon whom we went to war with and whether the enemy had a large commerce from which the sailor could hope to glean a fair share of prize money, for a prospect of hard knocks and no prize money is not particularly inviting. Seamen as a class are as patriotic as any other citizens, but in the matter of pay and prize money they are apt to lay aside sentimentality. As long as his physical ability remains, the sailor is made use of, but when broken down he is thrown aside with as little hesitation as an old horse is turned out to die. Seamen are generally shrewd enough to understand that if they do not look out for themselves no one will look out for them, and so it will happen in time of war, that they will hang around Government recruiting stations resisting all solicitations to enlist until they can make terms that will insure something for a rainy day if happily they escape the perils of war and the clutches of rapacious land-larks.

Seamen are not compelled to perform any duty corresponding to that of the militiaman, who is regularly enrolled, must encamp and drill at stated times, and is under the supervision of commanding militia officers, as carefully as the *Landwehr* of Germany or the *Garde Nationale* of France. A sailor can ship in the Navy or not, as it suits him, and it is a well-known fact that in our civil war, although the Navy stood in great need of seamen, and it was found difficult to fully man the vessels, thousands of men from the mercantile marine enlisted in the Army to secure the large bounties, and were glad afterwards to be transferred from the Western Army to fill up the deficiencies in the gunboats.

When mariners are unemployed no exemption is provided for them by the acts of Congress, and so it happened that a class of experts on the sea, who as such are fostered by the nations of Europe, and from which only a supply can be obtained in an emergency, were withdrawn from the element to which they properly belonged. Many were drafted into the Army, though no doubt the bounty money had its effect in reconciling the sailors to their anomalous condition, but if obliged to serve at all their services should have been in the Navy, where their aid was so sorely needed. As the case stood, a hardship was inflicted, not only on the seamen, but also on the Navy.

It has ever been the policy of the United States to foster the sources which supply seamen, for which reason this class of persons was exempted from militia duty by act of Congress in 1792. Besides this, bounties have been paid to fishermen, the object of these laws being to secure for the Navy, when needed, the services of our seamen, which object was defeated when so many of them were forced into the military service. Petty officers, seamen, and marines, serving on foreign stations, were drafted into the Army and put to great inconvenience to obtain relief, and while calls were frequently made for soldiers by the Government, there was no act of Congress to encourage the enlistment of seamen.

This state of affairs will always tend to the prejudice of the Navy, and a special law should be enacted requiring the enrollment of every mar-

iner serving on board vessels of the United States, including coast steamers, vessels in the foreign and coastwise trade, vessels on the lake, fishermen, yachtsmen, &c., on the plan of the royal naval reserve of Great Britain, which will be one of the strongest supports of that nation in time of war. England has at present 200,000 merchant seamen in her naval reserve, with which to man her war vessels. We at one time during the civil war were in great straits for seamen, but could only obtain 30,000, when we required at least 20,000 more in order to man our 600 vessels of war.

The bill introduced into Congress at its last session by Senator Whitthorne is a move in the right direction. Its object is to increase the naval strength of the country, and the methods proposed are in accordance with those adopted by the great powers of Europe, in default of which, in time of war, they could not man their navies without resorting to the odious system of impressment. This bill of Senator Whitthorne, launched upon the troubled waves of an expiring Congress, was favorably reported by the Naval Committee of the Senate, and it is sincerely hoped by officers of the Navy that it will yet become a law. Its provisions not only include manning the Navy in time of war, but also in structing, in time of peace, the officers and men of our mercantile marine, always the great support and dependence of the Navy. Without the services of the officers of the mercantile marine who volunteered for the Navy during the civil war, we could not have carried on those extensive naval operations which surprised the world.

All these matters come within the purview of the Constitution which provides for the manning of a Navy, and the author of the bill to which I have referred has shown a high degree of judgment and patriotism in taking his position on this question and others therewith connected. I urgently recommend that Senator Whitthorne's bill should be enacted into a law without delay. Its passage would have a most beneficial effect upon the Navy, and there are features in it looking towards the re-establishment of the mercantile marine. Those who have the patriotism to follow up this idea and secure the passage of the bill will have a much better title to the gratitude of the country than those who by their course in Congress have contributed to keep our ocean commerce in the background. Besides, if, in time of war, we should issue letters of marque and reprisal, which it is always our policy to do, we would have a class of vessels on hand already officered and manned by persons instructed in the management of naval ordnance and familiar with naval regulations.

OUR COMMERCIAL MARINE.

At one time the ocean commerce of the United States was second only to that of Great Britain, and our energetic merchants pushed their ventures to the remotest parts of the world. Our mercantile marine received some severe blows from "orders in council," from hostilities with France and Great Britain, and from Algerine corsairs, but such was the energy of our people that our shipping soon recovered its importance. But within the last twenty-five years the United States mercantile marine, from one cause and another, has decreased so materially that the matter has become a source of the greatest uneasiness to those conversant with the subject, and fears are expressed that our foreign shipping interests will never again raise their heads.

Our law makers are partly responsible for the decline in our ocean shipping, for while every other nation with any claim to commercial importance has strained every nerve to increase its commerce the United States has done nothing. The result is that foreign powers have made



nopolized the American carrying trade. One or two steam lines, owing to adventitious aid, for a short time managed to compete for a share of the profits of the ocean trade, but this lasted but a short time and now they scarcely pay expenses.

It is a national calamity to see our steam mercantile marine falling away in the manner it has done, and it is a great misfortune to the Navy, which ought to be able to depend on this service for a supply of seamen and fast vessels, as other nations do in time of war. Ours is the only case of a nation in modern times with a great commercial marine which has been allowed to fall into a state of decay for no perceptible reason beyond the fact that it has not been fostered by Government, and merchants finding that their ships had no protection on the high seas have withdrawn their capital from the ocean and invested it in more lucrative business on shore.

All modern nations have made strenuous efforts to enlarge their ocean commerce, and Great Britain, France, Italy, and Germany have in the last twenty years made great strides in that direction, leaving the United States far astern in the race, with no prospect of overtaking their competitors until such Government aid is supplied as is necessary to give our ocean commerce a fresh start.

When sail was the great motive power, we held our own and steadily gained upon our great rival in ocean commerce, and although we were the first to make use of steam, and use it now on our coasts, lakes, and rivers on a larger scale than any other country, yet we are to-day lowest on the list of commercial nations owning lines of ocean steamers. Great efforts have been made by advocates of free trade to abolish our old shipping laws, under which our people not only built vessels for themselves but supplied them to foreigners. The effect of the passage of such a measure by Congress would be to strike a final blow at our shipping interests, and throw them completely into the hands of our British rivals, giving them all our ocean carrying trade, and closing the ship-building yards of this country. In case of war with Great Britain we could neither build nor repair iron vessels in this country.

Owing to differences of opinion between free traders and protectionists our ocean commercial marine has gone to the wall, for those disposed to embark in the carrying trade declined to take the risk when they saw the growth of free-trade ideas on this side of the Atlantic, thinking it hopeless to contend with the British on the ocean when aided by such a prevalence of British opinions in the United States. But people are beginning to give more attention to this subject, which is not simply a matter of private thought, but one of national importance when we consider the immense assistance a great commercial marine would be to the United States in time of war, a misfortune to which we are at all times liable. If we have hitherto been fortunate in escaping foreign wars, it is principally because other nations have found their trade with us too lucrative to be interfered with.

At present there is a great desire in this country to share with others in the foreign trade, and it is strongly urged that the Government should give its aid in resurrecting our ocean commercial marine, since it is very evident that our shipping cannot be revived without the same assistance that was given the ocean steam lines of Great Britain, France, Italy, Germany, and, latterly, Spain. Heretofore, when it has been proposed in Congress to grant Government aid to assist in putting afloat lines of ocean steamers, questions of free trade and tariff have been introduced to kill the measure, and foreigners who do not wish any competition with their lucrative business, and have plenty of money

with which to operate, are always ready to show how much more advantageous it is to Americans that they should have the carrying trade. Foreigners generally argue that they receive no "subsidies," but who knows but themselves what assistance they receive from their Governments?

They carry the United States mails at a low figure to keep American vessels from being built to carry them. It costs them little or nothing to carry the mails and they can well spare the small amount of room required. That lines of American steamers should carry the mails is doubtless the desire of every American, and the feeling on this subject is increasing all over the country. At the same time every merchant knows that a line of American ocean steamships cannot be maintained without subsidies from the Government. In regard to this a misapprehension prevails among the uninformed, who consider it a proposition for the Government to "foster monopolies."

Now, there is a great difference between granting a subsidy and fostering a monopoly. In the latter case, the sole power and permission to deal with a certain place or in a certain article is granted, while the case of a subsidy is simply an assistance to an enterprise from which a return is expected, and such subsidies as I have advocated should not be confined to any particular line of steamers, but should be given to all ship-owners who are willing to make their ships conform, in a prescribed degree, to the requirements of a vessel of war, said ships to be constructed under the supervision of the Secretary of the Navy.

This is what other commercial nations do, and it is only justice to the Navy and the country that we should pursue a course that will double or treble the number of our cruisers in time of war. One way of granting a subsidy would be to enact the "tonnage bill" several times brought before Congress. This bill provides that 30 cents per ton shall be allowed every vessel propelled by sail or steam and built and owned in the United States and trading with foreign countries, for every thousand miles sailed or steamed, the contract to hold good for a term of years, with such restrictions regarding the vessels as the Government shall impose.

This would be the simplest plan for resurrecting the mercantile marine and the Government would have at its disposal a class of vessels little inferior to the regular cruising ships of war. In fact, the chances are the steam merchant vessels would be superior in speed, which should be the chief desideratum with commerce destroyers. By a proper subsidy, such as I have indicated, many industries would be assisted, those of iron and steel, coal mining, ship-yards, canvas, boat building, hardware, glass making, pottery, furniture, painters, engine builders; in short, a hundred different branches of trade which combine to make a complete vessel, industries that are now languishing for want of this very stimulus which they would enjoy but for the lack of forethought in those who should labor to advance every employment in which our citizens are engaged.

It is not so much the building proper of American steamships that makes them cost more than vessels constructed abroad, as it is the expense of fitting them out, for there is not sufficient competition in this country to bring that kind of work down to the standard of foreign countries where labor is so much cheaper. Ships built in Great Britain cost ten per cent. less, but when the better finish of American ships and the superiority of our iron is considered, the statements that it would be better for us to build ships on the Clyde or Mersey are seen to be fallacious.

With all these facts staring our legislators in the face, they should not hesitate a moment between the proposition to abolish the shipping laws so that vessels could be built abroad for us by British mechanics, and that to foster the industries of our own country and have our ocean steamers constructed in the United States under the supervision of naval officers, so that the Government would have vessels of suitable character to perform the service required of them as commerce destroyers in time of war.

This argument doubtless conflicts with the theories of the free-traders of Great Britain and the United States, who require that England shall do all our carrying trade and reap the profits, but, leaving sentimentality out of the question, we will get better ships built in our own country, although the first cost may be rather more, and we shall have the satisfaction of knowing that the vessels can, if necessary, be used for naval purposes. This is what advocates for increasing our naval resources aim at in supporting the subsidy measure, for we see how little disposition there has been in this country to build up a Navy adequate to its wants and dignity, but the officers of the Navy hope to see some plan adopted without delay, by which, in event of war, they can afford necessary protection to our own commerce and inflict damage on that of the enemy.

There is a growing feeling in the country with regard to the neglect which has been manifested in building up our ocean mercantile marine, and it is to be hoped that this feeling will spread until the thousands of unemployed workmen have a chance to earn good wages and the American ocean steamers have a fair share of the \$150,000,000 annually paid to foreigners for carrying our goods.

By the course we have pursued in this country we have actually given protection to foreign steamships at the expense of our own. The wharves of New York are decorated with foreign flags, while hardly an American ensign can be seen floating above a steamer suitable for conversion into a vessel of war. This is free trade with a vengeance, all on one side and for the benefit of other nations. We ship our goods in foreign bottoms and foreigners get the lion's share of the profits. No American steamships are employed in foreign trade, because subsidized ships can drive them off and carry freight cheaper.

It may be denied that these foreign lines are subsidized, but we know they started on a subsidy, which their Government wisely allowed them, and with that aid and the opposition our ship-owners met with in this country, owing to a want of liberality on the part of Congress, European steam lines can increase and multiply without opposition from the United States. It does not appear to have occurred to our people how this liberality of foreign nations will react against us some day. These lines of foreign steamships have all the ocean traffic in their hands. They have a perfect right to it, no doubt, as long as they find no one to dispute it. New York, to all appearances, is a foreign port, and owes much of her prosperity to the great ships which steam in and out of the harbor almost as often as the trains run up and down the elevated railroad.

Many of these ocean steamers are grand structures of great speed and strength and well calculated for commerce destroyers. They could outstrip any cruisers we now have afloat, whatever we may do in the future. Here is a great fleet of steamships built with all the skill of British artisans that could in ten days' time be metamorphosed into vessels of war, armed with heavy guns, ready to blockade our ports and sweep what commerce we have left from the sea, or to encounter our

ships in battle. In the ordinary course of events this is not likely to happen, for the interests of Great Britain and the United States are too closely interwoven to make a conflict of arms between them probable, but war has occurred before and may occur again, and I wish particularly to draw attention to a naval power right in our midst, built up and fostered by this country and ready to be used against us. The protection that has been given these foreign lines consists in the repudiation by our legislators of the claims of our own ship owners and failing to grant them assistance to enable them to compete with other nations.

I append the names of a few of these great British ships to show what an auxiliary Navy might at this moment have been ours had we taken time by the forelock and devoted our attention to the building up of our own mercantile marine instead of that of foreigners. The list here given includes only a portion of the vessels that can be converted into ships of war, but the fleet would be a powerful one if we could control it:

Name of ship.	Tons.	Name of ship.	Tons.
Aurania	7269	Arizona	5147
Bolivia	4050	British Queen	3538
Britannia	5004	City of Richmond	4623
City of Montreal	4489	City of Chicago	5202
City of Rome	8144	Celtic	3867
Devonia	4270	Denmark	3724
England	4896	Etruria	7718
Egypt	4670	Furnessia	5495
Helvetia	4588	Holland	3848
Servia	7392	State of Nebraska	8986
Umbria	7718	Wisconsin	3700
Wyoming	8238		

These facts may be deemed suggestive, and when I mention that the *Etruria*, one of the above-named ships, lately made 496 knots in twenty-four consecutive hours, or over twenty knots an hour, the importance of building similar vessels for our mercantile marine may be estimated. No matter how great a fleet of war vessels a nation may possess, a strong commercial marine is a great addition to it, a matter which is perfectly understood in Europe. Whenever we have been engaged in war our mercantile marine has very greatly contributed to our success. The vessels I have mentioned in the foregoing list form but a small portion of the fleet of clippers which seem at present to have the exclusive right to transport American merchandise across the ocean, and the fact that not a single line of American steamers is employed in transporting material to Europe, is a serious reflection on the enterprise of our citizens and an evidence of neglect on the part of Congress.

As people begin to examine more closely into the subject, the cry of "monopoly" has less weight. Shipping leagues are springing up in all parts of the United States, and the potent arguments advanced at their meetings are sweeping away the clouds of prejudice and showing the public the true state of affairs. The word "subsidy," so long a bugbear to our legislators, has begun to lose some of its terrors, and they see in the term "subvention" (a Government aid or bounty) or "postal appropriation" no signs of monopoly in England, while at present we are practically insuring a monopoly in this country to foreign steamship lines.

There is no doubt that the new view of this matter which is taking possession of the American mind has brightened the prospects of our mercantile marine, and it is to be hoped that the many gloomy years in which our commerce has been at a low ebb may be succeeded by a pe-

period of wise legislation in which only a national feeling will prevail. I look for this as hopefully as I do for generous appropriations for the Navy when Congress again assembles.

A closer examination of this subject than has heretofore been given it by the majority of our statesmen will show the loss this country has sustained by a failure of Congress to act in the premises. In the last eight years no less than *one billion two hundred millions of dollars* have been paid to foreign steamships, a sum almost equal to our national debt, and a burden that is only made tolerable owing to the immense resources of our country. We should be still further depleted but for the fact that we are sustained by the tariff on foreign merchandise and the protection of our manufactures, which prevents us from being undersold by foreigners and enables us to give employment to our working people, so that with all our drawbacks we grow rich.

It would be hardly fair to accuse the American people of a want of energy for failing to revive their ocean commerce when they are exhibiting so much of this quality in other directions in developing the resources of the country. It seems to be a law of nature that decadence shall overtake every nation in the course of time, but there is no instance on record of a nation giving up her position in the race for supremacy without a struggle to retrieve herself. The decadence which has afflicted our ocean carrying trade is not for want of energy on the part of our people, or for the want of laws, but perhaps from a plethora of both which has hampered those who would have labored for its revival.

This country was not formed by Government but was built up by the independent efforts of a series of individuals who have led the way in all great enterprises, and in the early days of the Republic never thought of asking Government aid; but during the great crisis in our history, when all the men and money of the country had to be employed to save it from destruction, the nations of Europe, while we were hampered with difficulties at home, got so far ahead of us in the race for commercial supremacy that they have ever since maintained the lead.

The tendency in this country has been not to foster and encourage enterprise, but to limit and destroy it by laws specious enough in reading, but which are like the ashes of Dead Sea fruit when placed to the lips. To this system of legislating down hill and closing the door tightly year after year against the applications of those who stand ready to enter into the business of reviving the commercial marine, is due the fact that our ocean-carrying trade has passed into European hands, and that we are likely to be left with half a dozen machine shops to help us build a Navy in times of war, or repair the small one on which, in ordinary times, we seem doomed to rely.

While our present illiberal policy is pursued we stand no chance of ever becoming anything more than a fifth-rate power upon the ocean. If we go on at the present rate our country will lose much of the strength which it owes to the cohesion of its individual atoms, and, like a soulless machine working on at random, it will meet the fate of many other nations that have flourished for a time and then fallen by their own weight.

Laying aside all arguments in favor of a mercantile marine, it is necessary for the assistance of the Navy in time of war. We need additional and enlarged markets for our surplus products, but foreign vessels with their subsidies are fast closing all the channels of trade against us, and our manufacturers, who would otherwise help to supply the world, are shut off by British rivals. British steamships have taken

possession of all the routes of trade fostered by the British Government and protected by British guns. This is creditable to the British Government which looks out for the interests of Englishmen all the world over, and it would seem as if the parent stock of the English-speaking race had more energy than their transatlantic offspring, for their steam mercantile marine not only monopolizes the foreign trade of the United States, but encircles the earth, for there is not a port in the world where there is a chance of finding a market for manufactured articles that a British steamship does not penetrate.

All that is left to us in the way of foreign commerce are the gleanings in the by-ways of trade about which our great rivals give themselves little concern, and a few second-rate vessels may now and then be encountered trying to make a living under our flag, struggling along like the crows at Pensacola, which have to go to sea to get something to eat. That kind of commerce is of little benefit to a nation. It is necessary to move on the great thoroughfares of the ocean to have an extensive trade, and Great Britain, in recognition of this fact, pays her steam lines liberal subsidies.

As the great highways of ocean trade are not frequented by American steamships, inquiry ought to be made as to why this is the case and remedies adopted to cure the evil, especially as regards those routes where exports from the United States should naturally be carried in our own vessels, but in 1880, when this country had had ample opportunity to revive her commercial marine, we find the Americans transported goods to the value of \$280,000,000 while foreign vessels, mostly steamships, carried \$1,309,466,596, the percentage being in 1856, 75, and in 1880, 17 per cent. This was a tremendous change for a country in regard to which a well-known statistician observes: "At the beginning of the nineteenth century the commerce of the world seemed to be passing into American hands, American shipping having increased fivefold in twenty years," yet this once flourishing state of affairs seems to be forgotten by our legislators, which is the more remarkable considering the highly intelligent character of our members of Congress generally.

It was natural to suppose that when this falling off of our commercial marine took place Congress would take advantage of the authority given by the Constitution to regulate commerce with foreign nations, and build it up again. The words of the Constitution are ample warrant for Congress to provide that our ships should receive a fair share of the ocean carrying trade, and there is just as much power to regulate our ocean commerce as to regulate commerce between the several States of the Union; but to prevent complications with foreign powers and to avoid laying imposts on foreign vessels that would conflict with treaties, we must give our citizens sufficient subsidies to enable them to build and run lines of steamships equal to any afloat.

What would ten millions a year be to this country if given by Congress to help build up our commercial marine? It would more than return the equivalent in the shape of customs dues. It would more than pay if we could retain in the United States twenty out of the one hundred and fifty millions which are yearly carried out of the country for freights without benefit to our citizens. Why should not American commerce be allowed the same opportunities that are afforded the other industries of the country, which have reached a development such as the most far seeing never dreamed of? We are not tied down by foreign subsidized competitors on land, and therefore our progress has been marvelous, and so it would be upon the ocean if the bonds were once out which confine our ship-builders.

We will take, for instance, the French merchant steamships of over 8,000 tons, which of late years have become a feature in trans-Atlantic travel. These vessels were encouraged by their Government as a set-off to the British steamships, which it was seen could be turned into vessels of war at short notice in case of hostilities with France, just as on a late occasion the Russians, when threatened with a war with England, fitted up several large steamers in this country as commerce destroyers. France pays to these steamers \$14,000 for every round trip between Havre and New York. What chance could an American line have against such a competition as that, receiving no assistance from Government and probably not being paid to carry the mails, which the foreigners would carry for nothing rather than an American ship should receive aid from the Government? Even giving us "free ships and free materials" would not surmount the difficulty.

Foreigners know this, and do not object to our having fast ships built on the Mersey and the Clyde, as they are aware that we could not run them with any profit handicapped as we would be by the many advantages possessed by the steamers of Europe. Foreign governments must have lines of fast ships as offsets to each other in time of war, and are willing to pay for them, but even with governmental aid the profits of these vessels are not excessive, about 6 per cent. being the usual limit. Without the subsidy, there would be no profit. If there be any lines which do not receive Government aid, it is because they received it until they were able to get along without further assistance. At one time the Cunard line, with its magnificent fleet, netted 26 per cent. If this line should, for any cause, fail to pay a fair dividend, it will be for the interest of Great Britain to subsidize it again.

After all, the amount required to subsidize a line of steamers is not so very great. Suppose the United States started to subsidize forty ocean steamers the size of those that now cross the Atlantic. Putting the vessels at 8,000 tons each, and allowing 30 cents per ton for every 1,000 miles traveled, the expense would be \$2,400 per 1,000 miles for the 3,000 miles, or \$7,200 for the voyage, return trip the same, or \$14,400 for the round trip. Assuming eight round trips a year would give \$115,200 annually for each steamer, or for the whole forty vessels \$4,608,000 for a grand fleet of ships worthy of this Republic, any two of which would be worth more in time of war than all the cruisers we have at present in the Navy.

Yet \$4,500,000 is no great amount for a nation to pay that has so many millions locked up in her Treasury doing no good, while every legitimate opportunity should be taken to enlarge the avenues of trade by land and sea in order that our country may fulfill the grand destiny marked out for it.

Besides my interest as a citizen in the advancement of the country, I am specially concerned in behalf of the Navy, and am endeavoring to show for how small a sum an auxiliary naval force can be maintained. We spend more than the amount I have mentioned in public buildings, and treble the sum in river and harbor improvements, and I would inquire which of these three appropriations would be of the greatest benefit to the country, to say nothing of the more important part we would play in foreign countries? In time of war this great adjunct to our Navy would commit havoc on the enemy's commerce all over the world, while the heavy ships were defending our coasts. This is a grand picture to contemplate, but I fear a delusive one. Judging from the past, we are not equal to the occasion.

Notwithstanding our former experience, we seem to have learned nothing, and, as regards our commercial marine, are actually in a worse condition than we were in 1812. Speaking interestedly, I look at the loss to the Navy through the lack of energetic action on the part of our people and of unwise legislation on the part of Congress. I refer to the want of means to properly man a great fleet in time of war, which under present circumstances would be impossible, no matter how many naval ships we might build. A navy cannot be improvised or built at short notice, a fact which all history demonstrates, but it requires some strong incentive to build it up, such as a powerful enemy near at hand, a commerce to protect, or injuries to avenge, and those nations that have dominated the world for so many years have attained their naval greatness only through a long course of training and learning how to turn to account every possible factor in the event of war. After a long series of hostilities between Great Britain and France, the conviction was forced upon the latter nation that the only way to compete with her rival was to build a navy of equal force. When this scheme was proposed in the French Assembly, Mirabeau remarked:

The English war marine has grown to what it is, like the English oaks of which the ships are built, through the slow progress of a thousand years. You cannot have a navy without sailors, and sailors are made through the dangers of the deep, from father to son, until their home is on the wave. You cannot build up a navy at once by a simple act of legislation.

These memorable words are as true to-day as they were when uttered.

We must not expect to go on from year to year neglecting everything that tends to increase the naval strength of our country and then by some spasm of legislation create at once a navy or mercantile marine. In the case of a mercantile marine there will have to be overcome the opposing elements that have stood for years in the way of a great industry, and the first step should therefore be to appropriate money liberally, for money is the Archimedean lever that moves the world. No meager aid should be doled out to repair the mischief created by unwise economy in the past, but such assistance should be given as will infuse life into every part of the Republic and give employment to hundreds of thousands who to-day are without encouragement to ply their trades, a body of mechanics of whom the country may be proud, and upon whom the Government must rely in time of war.

It is the interest of a commercial nation to have as great a balance of trade in its favor as possible. Great Britain, with this idea in view, is constantly increasing her tonnage, and endeavors to have all her imports and exports carried in her own vessels, thus realizing nearly the entire selling price of her exports in foreign markets, and for her imports pays only the selling price in those same markets. If we had our own vessels, with which to carry on our trade, most of the freight charges would be retained or returned to this country, whereas \$150,000,000 are annually retained or returned to England. With many people this is a mere matter of "sentiment." They do not care how it is done so that they get their goods to a market, utterly ignoring the question of patriotism which should ever animate the hearts of Americans. But even in the breast of the most callous there must occasionally be a feeling of regret at the thought of our flag disappearing from the ocean, like a meteor that flashed for a moment over the surface of the waters and then disappeared forever.

But there is yet hope. We are still the young giant among nations, whose muscles are temporarily relaxed, and the time may yet come when the American mind, grasping the situation of affairs, will exert

its powers to place upon the ocean a fleet of steamers that will be the pride of the nation, and will inaugurate a new era more striking than any previous event in our commercial history.

Many persons who cannot be moved by argument or touched by an appeal to their patriotic sensibilities can be convinced by an array of statistics which will show how the country is suffering, and how we are handicapped by foreign nations. Not only our traditional commercial rival, Great Britain, but the other nations of Europe have taken the lead of us on the ocean. It is no longer said, "All the foreign commerce of the world is passing into American hands," but "All American ocean commerce is passing into the hands of foreigners." These are facts easily substantiated.

In the first place, I propose to show that the great ocean steam marine of Great Britain owes its existence solely to subsidies, although many efforts have been made to prove the contrary. Parliamentary papers prove that the system is more than a century old, which shows that British statesmen were wiser in days of old than we are at present, notwithstanding the example we have had before us. Great Britain started with the idea of building up her industries on a basis that would eclipse all other countries, and her ocean marine was so essential a part of British greatness that from the first it received the most particular attention. The following taken from the reports of the "American Shipping and Industrial League," will show how much British commerce owes to subsidies (see 22d British Report of Commission of Revenue Inquiry), viz:

The attention of the commissioners of "fees and gratuities" in the year 1788 was drawn to the expenditure, which had been increased in the packet service during several years preceding their inquiry, an expenditure, according to their expression, "so enormous as almost to surpass credibility," the sum of \$5,200,000, giving an annual expenditure (in a period of seventeen years) the sum of \$305,000.

Here is official British investigation and evidence of shipping subsidy by England, viz:

1770 to 1788.....	\$5, 200, 000
This continued until next examination by committee of finance, 1797, which shows that, instead of being stopped, it was increased, averaging up to 1810 \$392,200 yearly, or, in all, 1788 to 1810.....	8, 628, 200
The committee (1810) also increased the subsidy to \$525,000 per year, and continued increasing until 1816, making a total of.....	4, 725, 000
After which it fell off for three years. 1817 to 1820, to.....	1, 655, 000
The spirit of subsidy again arose from 1821 to 1830, and paid.....	5, 855, 000
Making in the first sixty years a payment of.....	25, 063, 000

It was at this time (1830) that the British commissioner of revenue made an especial investigation "for the purpose of inquiring into collection and management of public revenue," and then began the heavy subsidizing of steamships to over \$500,000 per annum, as follows, viz:

1830 to 1837.....	\$6, 000, 000
From general post-office, 1837 to 1849	25, 000, 000
From mercantile marine fund, 1823 to 1848.....	37, 500, 000
From general post-office:	
1850 to 1859 (over)	60, 000, 000
1860 to 1869.....	50, 000, 000
1870 to 1885.....	70, 000, 000

Total assistance from British treasury to her shipping..... 273, 563, 000

This does not include "amounts especially authorized" by Parliament from time to time, or added from "mercantile marine fund," or amounts made up by the British system of "averaging and adjusting the accounts of her mail steamship companies," in order to enable them to declare an annual dividend of at least 8 per cent.

In order to anticipate the plea that such was the case, but that England does not now subsidize, the following is taken from official publications:

British mail subsidy.

[Report of the British Postmaster-General, 1885.]

Line of packets.	Contracts.		Payments.
	Commencement.	Termination.	
Australia: Point de Galle and Melbourne, Singapore and Brisbane, San Francisco, and Sydney.....	Contracts with colonial governments.		
Brazil, River Plate, and Chili: Bi-monthly from Southampton.....	Sept. 1, 1876..	On six months' notice..	\$4,800
Fortnightly service from Liverpool.....	July 1, 1878..	On six months' notice..	8,571
Cape of Good Hope and Natal.....	Contracts with colonial governments..		2,774
Cyprus and Alexandria.....			5,577
East Indies, China, and Japan.....	Feb. 1, 1880..	Six months' notice.....	260,000
Europe: Dover and Calais.....			12,012
Dover and Ostend.....			8,595
Malta, &c.....			541
North America: United States.....	Dec. 1, 1877..	On six months' notice..	98,304
Halifax, Bermuda, and Saint Thomas.....	Jan. 1, 1878..	On twelve months' notice.....	17,504
Pacific.....	July 1, 1878..	On six months' notice.....	3,418
West Indies: Bi-monthly service.....	Jan. 1, 1880..	On December 31, 1885.....	80,300
Non-contract service.....			415
Additional services: Liverpool and Puerto Cabello, Tampico, and Santa Martha.....	Oct. 1, 1881..	On six months' notice..	704
Belize and New Orleans.....	Contract with Honduras Government terminating September 30, 1882.....		1,800
Turk's Island and Saint Thomas.....	Contract with Turk's Island Govern- ment.....		200
West coast of Africa.....	No contract.....		9,082
Total.....			608,788

Detailed statement from "financial account" shows £774,626, or \$3,870,000.

By reference to Secretary Evarts's letter (Com. Rel., 1879, p. 26) the detailed "table of trade of West Indies" shows that only one-half of Great Britain's trade is with her own possessions, hence one-half only of her subsidy can be credited to the benefit of her colonies.

This settles the subsidy or subvention matter, or whatever name we may choose to call it, and should close the door against the schemes of foreign agents who are plotting to keep lines of American steamships from showing themselves on the ocean so that we may confine our shipping to the small vessels that creep along our coast. One would think that any American with proper pride of country would burn with indignation at the idea of our playing such an insignificant part—a game in which we may get the shell while our rivals secure the oyster. Consider for a moment the result of our submitting so long to this iron rule which affects every industry in the United States.

The number of steam vessels in the world is given in the following table, which is taken from the *Repertoire Général* of the Bureau Veritas published during the present year, and includes all steamers of whatever class above 100 tons burden :

Flag.	Number.	Gross tons.	Flag.	Number.	Gross tons.
British	4,906	6,545,615	Argentine.....	22	12,120
French.....	468	745,660	Chinese.....	9	11,832
German.....	529	601,975	Turkish.....	17	11,770
American.....	379	506,668	Hawaiian.....	12	10,127
Spanish.....	356	399,577	Peruvian.....	5	5,651
Dutch.....	167	210,549	Haytian.....	4	4,087
Italian.....	158	204,058	Zanzibar.....	2	2,828
Russian.....	218	165,447	Uruguay.....	4	2,306
Norwegian.....	275	147,011	Roumanian.....	3	2,125
Swedish.....	329	137,377	Tunisian.....	2	1,762
Austrian.....	105	135,145	Honduras.....	1	989
Danish.....	174	127,880	Persian.....	1	838
Belgian.....	62	111,746	Venezuelan.....	3	838
Japanese.....	101	92,479	Costa Rican.....	2	719
Greek.....	57	54,614	Siamese.....	2	547
Brazilian.....	82	40,216	Ecuador.....	1	329
Egyptian.....	28	32,674	San Domingo.....	1	167
Portuguese.....	27	26,515			
Chilian.....	23	24,925			
Mexican.....	12	18,466	Total.....	8,547	10,403,938

This statement shows at a glance the sorry figure which our country cuts in the enrollment, and it must be remembered that of the 379 steamers with which the United States are credited (which includes tugs, river boats, and old, obsolete craft of all sorts), but 101 are actually fitted to navigate the open ocean, and only 15 can be properly classed as ocean-sailing steamers. This last class are those running from New York to Aspinwall and Brazil, and from San Francisco to Panama, Australia, and China and Japan. All the others are coastwise vessels.

I give below a list of American steamers which make up the 101 vessels referred to above. In compiling it I have rejected all vessels built previous to 1865, all wooden and paddle steamers, and all below 1,000 tons:

List of iron and steel steamers of over 3,000 tons.

When built.	Name.	Tons.	When built.	Name.	Tons.
1883...	Alameda	3,158	1875..	City of New York	3,019
1878..	City of Para	3,532	1874..	City of Peking.....	3,079
1878..	City of Rio de Janeiro	3,548	1875..	City of Sydney.....	3,016
1884..	El Dorado.....	3,531	1884..	El Paso.....	3,531
1884..	Eureka.....	3,531	1882..	Excelsior.....	3,294
1873..	Illinois.....	3,101	1873..	Indiana.....	3,101
1883..	Mariposa.....	3,158	1873..	Ohio.....	3,101
1872..	Pennsylvania.....	3,104	1883..	San Pablo.....	3,119
1882..	San Pedro.....	3,119			

Total, 17 steamers, 57,012 tons. Other nations have 484 steamers of over 3,000 tons.

Between 2,000 and 3,000 tons

When built.	Name.	Tons.	When built.	Name.	Tons.
1873...	Acapulco.....	2,572	1883..	Advance.....	2,094
1883...	Alamo.....	2,943	1876..	Algiers.....	2,287
1881...	Alleghany.....	2,014	1881..	Barkshire.....	2,014
1879...	Chalmette.....	2,983	1884..	Chatham.....	2,729
1882...	Chattahoochee.....	2,676	1883..	Olenfuegos.....	2,332
1879...	City of Alexandria.....	2,480	1880..	City of Augusta.....	2,870
1877...	City of Macon.....	2,063	1882..	City of Puebla.....	2,841
1877...	City of Savannah.....	2,029	1877..	City of Washington.....	2,618
1870...	Clyde.....	2,017	1878..	Colima.....	2,906
1879...	Colorado.....	2,765	1872..	Colon.....	2,665
1880...	Columbia.....	2,723	1885..	Comal.....	2,924
1879...	Decatur H. Miller.....	2,296	1883..	Finance.....	2,603
1873...	Grenada.....	2,573	1882..	Guyandotte.....	2,351
1884...	H. F. Dimmock.....	2,626	1883..	Lampasas.....	2,943
1875...	Lone Star.....	2,355	1880..	Louisiana.....	3,000
1876...	Morgan City.....	2,317	1883..	Nacooche.....	2,689
1875...	New York.....	2,384	1880..	Newport.....	2,735
1877...	Niagara.....	2,365		Onoka (lake steamer).....	2,100
1878...	Oregon.....	2,335	1885..	Philadelphia.....	2,000
1882...	Queen of the Pacific.....	2,728	1876..	Rio Grande.....	2,568
1882...	Roanoke.....	2,354	1882..	San Blas.....	2,075
1882...	San José.....	2,081	1882..	San Juan.....	2,076
1881...	San Marcos.....	2,830	1884..	Santa Rosa.....	2,417
1879...	Santiago.....	2,359	1878..	Saratoga.....	2,428
1884...	Seneca.....	2,729	1881..	Starbuck.....	2,157
1878...	State of California.....	2,206	1882..	Tallahassee.....	2,000
	Tioga (lake steamer).....	2,000	1881..	Umatilla.....	2,131
1881...	Walla Walla.....	2,135	1881..	Willamette.....	2,582

Total, 56 steamers, 138,155 tons. Other nations have 1,819 steamers of from 2,000 to 3,000 tons.

Between 1,000 and 2,000 tons.

When built.	Name.	Tons.	When built.	Name.	Tons.
1877...	Aransas.....	1,157	1880..	Breakwater.....	1,04
1881...	Caracas.....	1,580	1884..	City of Topeka.....	1,057
1873...	City of San Antonio.....	1,605	1875..	City of Atlanta.....	1,621
1880...	City of Columbia.....	1,878	1874..	City of Chester.....	1,10
1874...	City of Panama.....	1,490	1868..	Costa Rica.....	1,457
1870...	Georgia.....	1,900	1878..	Gato City.....	1,993
1878...	General Whitney.....	1,848	1873..	George W. Elder.....	1,709
1872...	George W. Clyde.....	1,805	1866..	Harlan.....	1,163
1873...	Johns Hopkins.....	1,471	1873..	Knickerbocker.....	1,642
1879...	Manhattan.....	1,525	1872..	New Orleans.....	1,410
1881...	Ozama.....	1,028	1873..	Richmond.....	1,438
1873...	State of Texas.....	1,549	1883..	Spartan.....	1,506
1882...	Valencia.....	1,568	1871..	William Crane.....	1,417
1869...	William Lawrence.....	1,047	1877..	Yaquina.....	1,341

Total, 28 steamers, 41,415 tons. Other nations have over 2,600 steamers of from 1,000 to 2,000 tons.

RECAPITULATION.

Class.	No.	Tons.
Steamers over 3,000 tons.....	17	57,012
Steamers between 2,000 and 3,000 tons.....	56	138,155
Steamers between 1,000 and 2,000 tons.....	28	41,415
Grand total.....	101	236,582

This is a very poor exhibit of American sea-going steamers. It shows only a few above 3,000 tons, and not all of these are employed. A line of steamships was started from Philadelphia to Europe, consisting of the *Illinois*, *Indiana*, *Ohio*, and *Pennsylvania*, each of 3,100 tons, but it was soon found that they could not compete with foreign lines for causes readily stated. Then they were purchased by the Pennsylvania Railroad Company and started out again on a quixotic career. The same result followed, and the company had to withdraw and lay them up—a long row of hulks now, looking very much like those of the Navy laid up in "Rotten Row." Their short existence indicated that the national spirit which influenced a portion of our citizens met with no corresponding feeling in other quarters, and these vessels became the victims of that temerity which now and then animates citizens anxious to redeem our commerce and place the flag once more upon the sea.

The above tables show what an increase there has been in foreign tonnage, owing to the system of subsidies. In addition to this, in 1860, ships built of iron were gaining in popular favor abroad, an idea that was encouraged in England because ships could be built of a material of which England had an abundance, whereas her supply of timber was limited. In the mean time, the United States, with plenty of timber, but building no iron ships, began to feel the effects of the new mode of construction in Great Britain, and in consequence were compelled to accept low rates of freight, and, at length, to sell their ships, so that in 1865 we had but one-third of our foreign commerce, while that of Great Britain had largely increased.

The iron ships were encouraged by the British Government, for it was seen what a preponderance in tonnage would soon be given their mercantile marine, while the United States did nothing to encourage ship-building, except forbidding registers to foreign-built vessels, and no plant existed in the country for turning out such ships as were being multiplied in Great Britain. It would seem as if our countrymen were so bewildered by the number and size of the steamers constructed abroad, and so delighted at the luxurious accommodations afforded European travelers at so reasonable a rate, that they became converts to the English idea, forgetting that the advent of these steamers was a death-blow to the hope of reviving our ocean steam marine.

Since that time the decline of our vessels has continued, and at present the tonnage of this country engaged in foreign trade is less than it was in 1810, and if no remedy is applied, it will ere long disappear from the ocean. The advocates of free ships contend that the existing state of affairs is largely owing to our navigation laws, and that the only remedy is to authorize the building of our vessels on the Clyde and Mersey; but I think it safe to say that the repeal of our navigation laws would result in the destruction of our coastwise carrying trade, and that the art of ship-building would be one of the lost arts as far as we are concerned. The best argument against this plan is that the nation which has so nearly succeeded in driving us from the ocean is a strong advocate for free ships.

Our present facilities for building iron and steel ships are poor enough, as is shown by the fact that none of the builders could contract at once for the ships lately authorized by Congress and agree to finish them in a stated time, while in England such contracts would be accepted in a week, and the ships would be in commission in eighteen months. From this circumstance arises the desire of many people to have our ships built abroad instead of devoting their energies to increasing the facilities

ties at home, when the same results would follow here as now obtain in Great Britain.

But suppose we could purchase a ship in England for \$600,000 that would cost \$700,000 in this country. Would it be any profit to the United States that the purchaser gained \$100,000 while the nation lost \$600,000 spent in foreign labor and material? Would it not be better to retain the money at home and circulate it among our mechanics and laborers? In such matters we might well take a leaf from England's book. She spares no effort to keep her laboring people employed in building up her great commercial marine and invincible navy.

I remember when American merchants were the most prominent men all along the Pacific coast of this continent, and our flag, waving at the peak of our splendid ships, outnumbered all others four to one. Americans held nearly all the trade, and then it was foreigners cried out that it was all passing into our hands. But to-day how great the difference. There are no American merchants to speak of; they have handed over all their right and title to trade to the British merchants, to whom are consigned the numerous steamships loaded with goods, among which none from our country will be found. England has captured our trade, and we are now, like the little fish that follow in the wake of the shark, gaining a scanty subsistence from the monster's leavings.

EAST INDIA TRADE.

It has been the ambition of the leading commercial nations for centuries to control the trade with the East Indies. The nation that could do it would dominate the commercial world.

In the palmy days of our commerce, when our great clipper ships made such quick passages from China and India to England and the United States, there seemed a fair prospect of the bulk of the trade falling into American hands, but the building of great ocean steamships and the granting of generous subsidies by the British Government put a stop to all this. America, with the best of iron and the best of mechanical skill, could not compete with her rival. Trip-hammers do not grow spontaneously, and a plant such as was established in England can only be provided by great capitalists backed by the aid of Government.

Driven from the ocean, we tried what could be done on land, and by Government assistance built the railroads to the Pacific, part of the straight and short road to India, China, and Japan. The project then was to subsidize a line of steamers from San Francisco to China and Japan, and the great trade with those countries would be ours; the time from New York to Hong-Kong would be thirty-four days, whereas by the old route around the Cape of Good Hope, eighty-six days were required, with all the vicissitudes of weather and climate. We subsidized a line of steamers which was eminently successful as long as the subsidy lasted, but at length the British put steamships on this route, which curtailed American profits very materially, and the stoppage of the subsidy to the Pacific Mail Steamship Company reduced its line to an ordinary affair and our promised wealth flowed into British coffers.

Thus the hopes of American trade with Japan, particularly, turned out delusive, and the matter stands about as follows:

Foreign commerce of Japan.

Country.	Imports.	Exports.	Total.
Great Britain	\$15,878,000	\$3,084,000	\$18,962,000
United States	1,533,000	10,854,000	12,387,000
France	3,128,000	7,048,000	10,176,000

So with the short, straight route to Japan, we lost the race, and when the Pacific Mail Steamship Company's line runs down for want of subsidies, all the carrying trade will pass into British hands.

The imports of China and Hong-Kong, together with all other Asiatic countries, amounted, in 1879, to \$754,669,000, of which amount Great Britain had \$281,631, France, \$22,893,000, and the United States, \$17,510,000. The exports were \$772,766,000; to Great Britain, \$225,806,000, and to the United States, \$53,838,000, showing that in the China trade the Americans fared no better than in the trade with Japan, notwithstanding our straight line to the Indies, all of which is because the English have a system which enables them to secure the greatest portion of the ocean carrying trade, while we have no system whatever.

England is now beating us with our own weapons. The Canadian Pacific Railroad will soon be in complete operation, and Canada has paid this tribute to England, not perhaps with the idea of diverting all the trade through the Dominion, but with the hope of obtaining a large share of it. Canada offers to pay \$75,000 a year to a line of steamers between Vancouver's Island and Hong-Kong to connect with the railway, and \$125,000 a year to an Australian line on condition that the British Government pay \$225,000 yearly to the former line. Should this arrangement be effected, the Canadian Pacific Railroad Company's purposes will be aided by an annual grant of \$425,000, at 3 per cent., the equivalent of a cash subsidy of \$14,000,000. Great Britain's contribution will secure her a military route well worth the money.

Thus Great Britain, either to secure the trade of a country or a military route to her possessions, merely applies the subsidy touchstone to all corporations that tend to strengthen the Empire. This line at once becomes a powerful competitor with the American lines, which will soon go to the wall unless proper support is given them. The Canadian Pacific Railroad is not likely to yield in itself any profit for many years, but it will put a stopper on American lines of steamships in the Pacific, and so far cripple our naval resources in that quarter.

By the simple process of paying a small subsidy, Great Britain controls a line of railroad across the continent, maintains a strong military and naval depot at Vancouver Island, and runs a line of steamers to China and Japan, which will enable thousands of the Chinese coolies, who have struck such terror into the inhabitants of our Pacific States, to invade our country from the north. We have held the subsidy business to be of no account, but it has done wonders for the British mercantile marine, and I see no reason why it should not do the same for that of the United States.

The British system of keeping up her lines of ocean steamers is never lost sight of nor neglected. It is as carefully looked after as her navy,

for the navy could not get along in case of a great war without the aid of the merchant steamers. In looking back at the marine history of England, it is noticeable that the decade embraced between the years 1840 and 1850 effected a revolution in the affairs of her ocean commerce. At that epoch fears were entertained that the commerce of Great Britain was on the decline, owing principally to the rapid growth of the United States as a maritime power. Mr. Cunard, who had built the first four steamships to run from England to America, under an annual Government subsidy of \$400,000, was enabled to have his compensation increased to \$560,000, or more than 50 per cent. of the cost of the four steamers. Six years later, when two new vessels were added to the line, the subsidy was increased to \$700,000, and was continued for fifteen years. The Peninsular and Oriental Steamship Company received subsidies to the extent of \$1,000,000, and the Royal Mail Steamship Company was established by the same means, which made these lines such a financial success that the fears of Great Britain losing her ocean supremacy were allayed and a turning point noted in the history of her commercial marine.

Since that period the attention of the British Government has been constantly applied to the extension of their steam tonnage—so much so that the business of building steamers was rather overdone, and finally there were at least 1,000,000 tons more than could be profitably used. This superfluity was the origin of the great clamor that broke out a few years ago in favor of “freeships.” The British hoped to sell us their surplus vessels, and the free traders of this country were in favor of a law which would permit us to purchase them and sail them under the American flag, apparently oblivious to the fact that the steamers could not be run in opposition to those of Great Britain without the subsidies which had caused the success of the latter.

Notwithstanding the surplus of steam merchant vessels in Great Britain, the building of iron and steel ships went on, while very few were constructed on this side of the ocean. The following table will show the effect of government aid to British ocean steamers:

Iron vessels built.

	Steamers.
1880, registered	406
1881, registered	465
1882, registered	543
1883, registered	678
1884, registered	537

We can hardly realize in this country such a wonderful activity in ship-building. There must be powerful inducements to continue ship-building even with a surplus of vessels on hand. The purchase by Americans of their superfluous ships was expected in England to open a still more lively competition in the ship building industry, the English knowing that every vessel sold by them would be finally laid up in this country, and be so much steam tonnage out of their way. “Free ships” would have brought disaster on those who purchased them, and all those industries connected with iron-ship building in the United States would have been destroyed.

* * * * *

To enumerate all the instances where the British lines of steamers have been made successful through Government subsidies would occupy too much space. I will confine myself to the most important cases:

Details of the agreement entered into between the British Admiralty and the owners of the White Star and Cunard Companies, by which certain of their vessels are

placed at the disposal of the Government on specified terms, are contained in a late parliamentary paper. The White Star Line agrees to hold at the disposition of the Government for purchase or hire, at the option of the Admiralty, to be exercised from time to time during the continuance of the agreement, the following vessels: *Britannic*, value £130,000; *Germanic*, £130,000; *Adriatic*, £100,000; *Celtic*, £100,000. In the event of purchase the foregoing prices were to be held as the values of the vessels on the 1st of January, 1887, plus 10 per cent. for compulsory sale, less an abatement of 6 per cent. per annum on the depreciated annual value for the period that might elapse between the 1st of January, 1887, and the date of purchase by the Government. In the event of charter by the Admiralty, the rate of hire of the before-mentioned vessels was fixed at the rate of 20s. per gross registered ton per month, the owner providing the crew, or at the rate of 15s. per gross registered ton per month, the Admiralty finding the crew, all risks of capture and of hostilities being assumed by the Admiralty. The company has determined to build one or two vessels of high speed and of such a type and speed as will render them specially suitable for service as armed cruisers, and in accordance with the plans and specifications submitted and approved by the Admiralty. In consideration of this the Admiralty will have to pay to the company an annual subvention at the rate of 15s. per gross registered ton per annum. On the 8th of February the Admiralty accepted similar proposals made by the Cunard Line in respect to the following vessels: *Etruria*, value £310,000; *Umbria*, £301,000; *Aurania*, £240,000; *Servia*, £193,000; *Gallia*, £102,000; a subvention of 15s. per gross registered ton per annum to be paid to the company on account of the *Etruria*, *Umbria*, and *Aurania* during the continuance of the postal contract, and in the event of the termination of that contract before these three vessels received five years' payment, the company to be entitled to receive for the balance a subvention at the rate of 20s., the five vessels being still held at the disposition of the Government. In the event of the Cunard Company building new vessels for the mail service, they will submit the plans to the Admiralty for approval.

The subvention will amount to about £6,500 for each of the new vessels of the White Star Line, so long as they carry the mails, or £8,500 should the mails be withdrawn. The annual charge for the retention of the Cunarders *Etruria*, *Umbria*, and *Aurania* is stated at £5,400 each. The Admiralty announces that they are ready to make the same arrangements as with the White Star Company for the first ten steamers that may be offered by any of the British steamship companies.

Only such ships are subsidized as have been carefully constructed under naval supervision, and are fully qualified for the duty of commerce-destroyers, troop-ships, store-ships, &c.

Since writing the above I have learned that three Cunard steamers have been purchased by the Canadian Pacific Railroad Company to ply between Vancouver and Hong-Kong, and the first voyage will commence at once.

It has been the custom in this country to have vessels that were paid to carry the mails inspected by the post-office officials, but such an inspection would merely show whether the vessels were seaworthy, not that they were able to carry guns. There is an impression existing in the minds of those who have not paid much attention to the subject, that the ordinary merchant steamer can, in an emergency, be readily converted into an efficient vessel of war. During the civil war we used a great many of these converted vessels, and although they answered the purpose of blockading the Southern ports very well, yet in the only case where one of them encountered a fairly armed cruiser she went to the bottom in fifteen minutes. Out of all the vessels in the American steam lines, of which I have given a list, there is not one which could be converted into an efficient cruiser without undergoing extensive alterations.

The merchant vessels we employed in the late war generally carried light 32-pounders and howitzers, but in future wars the smallest piece of ordnance likely to be used, with the exception of machine and rapid-firing guns, would be the 6-inch rifle. Vessels as at present constructed in the mercantile marine could not long endure the concussion of the 6-inch rifle, and if the 6-inch rifle would break down their decks, how much more would they feel the 8-inch guns, of which it would be desir-

able to have one or two on board each commerce-destroyer. Hence the Navy should not rely on those steamers we have now employed on our coast, or even some of those in use on the open ocean.

REORGANIZING THE NAVY.

When the Navy is fairly re-established, the ocean steam marine is given an opportunity of attaining its proper level, and an adequate naval reserve is formed, there will be required a reorganization of the service. The days of old-fashioned ships have passed away. The pot metal guns of twenty-five years ago will be melted up and a new system of ordnance will rule the hour. New kinds of ships, new kinds of guns including machine and rapid-firing guns and torpedoes, will take the place of old means of offense and defense.

All the changes above mentioned will have to be met by corresponding changes in naval routine, and much time will be needed to bring the Navy up to high-water mark. When a commanding officer is ordered to a ship, the difficulties of the situation will at once be apparent, although if he is a competent person he will be able to dispose of them, but the manning of a vessel and the general routine are matters that should not be left to the discretion of any single officer. The duties should be regulated by a board of officers, partly adopting ideas from European navies, but principally relying on our own intelligence as we have done heretofore.

The *personnel* of the Navy requires the most careful reorganization and means should be adopted to infuse new life into it. As regards promotion the service is at a standstill. Many officers who are ensigns should be lieutenants, lieutenants should be lieutenant-commanders, commanders should be commanders, and commanders captains. A captain should be able to reach the grade of rear-admiral by the time he attains the age of fifty-two years, so that the Government could obtain some service from him in that grade. Under present circumstances it often happens that an officer goes upon the retired list as soon as he is promoted to the grade of rear-admiral, having attained the age of sixty years. No officer should be over forty years of age when commissioned a captain, or thirty-five when promoted to commander. The officers in the lower grades should be young men in robust health, active and energetic, to enable them to perform the varied duties of their profession and should not be allowed to remain too long without promotion.

The men who commanded our ships and squadrons in the war of 1812 were of ages included between twenty and thirty-eight years, the brilliant results of our naval operations during that war is a fair argument in favor of young men for such positions. I will not pretend to say just how such a desired end can be attained, but the necessity of some action in this direction is more apparent every year. Some sacrifices will have to be made for the general benefit of the service, the Navy cannot continue on and be thoroughly efficient under present rule when the new style of fighting demands that every department of a ship shall be managed by men of vigor and ability.

A law providing that commissioned officers of the Navy, without records, be allowed to retire from active duty after thirty years' service with promotion to the next higher grade, would afford a great incentive and help bring about a more rapid promotion, so that in the course of a few years we might expect to see a more hopeful feeling among younger officers. The older ones have the goal of their ambition

sight and may hope ultimately to reach it, but to the younger ones, at the present time, the prospect is not cheering. Some of the more aspiring are seeking in private employment the advancement they fail to receive in the Navy.

* * * * *

IRON-CLADS.

I beg leave to draw your attention to the general condition of the single-turreted monitors. Those now lying in fresh water at City Point, Va., on the James River, are the *Ajax*, *Wyandotte*, *Mahopac*, *Canoncius*, *Lehigh*, *Manhattan*, and *Catskill*. Distributed among these vessels, to keep them in good order, are five officers and sixty-nine men. The expense of taking care of them is about \$25,000 a year, which is rather a large amount to pay for vessels that are being allowed to go to decay for want of proper repairs. If there is no intention of repairing them, I would recommend that the crew list be reduced by four ordinary seamen and a landsman, and that their places be supplied by two more carpenters, which would enable the officer in charge to keep their wood-work in order and to calk and patch their decks.

These vessels are as valuable to-day as ever they were for harbor defense, should they receive the necessary repairs, and in time of war would assist materially in defending the approaches to the capital, which, be it remembered, was captured in 1814 by a small army landed from a few vessels of war. The Potomac is no better defended now than it was then—in fact, it is not defended at all. I would renew my recommendation of last year that these monitors be put in repair. With strict economy this can be done for the small sum of \$220,200. Before the monitors could be moved by their own steam it would be necessary to tow them to a dry dock and there commence work on them, as it would be dangerous to open the sea and water valves while they are in the water. The actual defects of the vessels cannot be discovered until they are docked.

At Mare Island, California, the *Camanche* is ready for use as far as her boilers and engines are concerned, but she will require an expenditure of \$9,545 to prepare her for actual service. It is a pleasure to say that this vessel has been well cared for.

The general condition of the *Nantucket*, at the New York navy-yard, is bad and shows lack of care. This neglect should be avoided in the future, if the vessel is to be kept from going to decay, in order to preserve her for such use as she is capable of rendering in time of need. The estimated cost to put the *Nantucket* in condition for active service is \$25,000.

At the League Island navy-yard, Philadelphia, are moored the *Jason*, *Montauk*, and *Nahant*, and their condition is worse than that of the *Nantucket*. The Board of Inspection and Survey reports that they are not cared for properly, and, save in the engineer's department, are in an uncleanly state. Rubbish and sweepings were found in the bilges and on the lower decks, and their guns are in a bad condition and show great neglect. Cementing has protected the bottom plates of these vessels, and the rust of the hulls inside is partially covered with paint. The iron frames at and near the floor are, however, much in need of paint in many places, rusting having occurred underneath the whitewash. The estimated cost for repairs to these vessels is \$90,000.

The *Passaic*, at the Naval Academy, Annapolis, Md., and the *Saugus*, at the Washington navy-yard, have not recently been inspected by the

board, but as the former is used as a practice vessel for the naval cadets it is fair to suppose that she is in a better condition than her sister ships, and I judge that \$25,000 would render her effective for active service. The *Saugus* is borne on the Navy Register as condemned, and I am informed that she has been stripped with a view to her sale, but as this condemnation has not been made in the manner contemplated by the law of August 5, 1882, orders for a formal survey have been given to the board.

The grand total for the repair of all these iron-clads is \$369,745, a sum insignificant in comparison with the results which would be gained by its expenditure. In recommending that these vessels be placed in order, I take it for granted that they will be supplied with a modern armament, without which they could not be considered efficient for harbor defense.

I have the honor to be, very respectfully, your obedient servant,

DAVID D. PORTER,
Admiral, U. S. Navy.

The SECRETARY OF THE NAVY.

REPORT OF THE SUPERINTENDENT UNITED STATES NAVAL ACADEMY.

UNITED STATES NAVAL ACADEMY,
Annapolis, Md., October 13, 1887.

SIR: The following report may be considered to embrace the various recommendations and reports which have been submitted to the Department for approval from time to time during the past year.

The following table shows the number of cadets at the opening of the academic year, October 1, 1886, and at the end of the year, with the percentage of failures in each class:

Class.	Number (October, 1886.	June, 1887.	Loss dur- ing year.
			<i>Per cent.</i>
First	46	*44	5
Second	49	37	25
Third	57	43	24½
Fourth	85	54	36

* Graduated.

In May last, 69 candidates were examined and 35 passed. In September, 98 were examined and 61 passed.

The total number of cadets now in the Academy is 229.

First class	37
Second class	42
Third class	53
Fourth class	97

The high standard of academic merit has been maintained during the year, while the conduct of the cadets has, in general, been excellent.

In March, one cadet was tried for hazing, found guilty, and dismissed. One case of hazing was reported during the summer practice cruise, which was brought before a court at the termination of the cruise.

This cadet was also dismissed. Three cases occurred in the fourth class during September, on board the *Santee*. These cadets were tried and found guilty. In view, however, of the mildness of the offense and probably, also, because there seemed to be an impression among the cadets that those of the fourth class who entered in May could not, according to the legal definition, haze cadets of the same class who entered in September, the court did not recommend their dismissal. No cruel or degrading instance of this offense has taken place for a long period; the strict construction placed upon the law by the court and the Department has effectually suppressed the tendency to this objectionable practice; and it is the Superintendent's intention to bring to trial every form of hazing, no matter how trifling.

In conformity with the act of Congress requiring instruction to be given to all classes of cadets in "the physiological effects of alcohol and other stimulants, and their effects upon the human system" (approved May 20, 1886), a department of physiology and hygiene was added to the course of study. The surgeon of the Academy was made head of the department and a member of the Academic Board.

Instruction was given by means of lectures and recitations from a text-book. A French manikin, a skeleton, charts, magic-lantern views, etc., were obtained to facilitate the instruction.

The principal text-books in ordnance and gunnery have been revised. The work on Exterior Ballistics has been printed and issued to the cadets. The Text-book on Ordnance and Gunnery and the work on the Elastic Strength of Guns are now in the hands of the printer, and will be ready for issue November 1.

Only small editions of these books (all of which were prepared at the Academy) are published, in order that they may embrace the latest advances in the science of gunnery and gun construction.

A revised edition of the Academy Regulations has been prepared and is now in the hands of the Government Printer.

The library, which contained 28,275 volumes on October 1, 1886, was increased 980 volumes during the year. The addition to the library building provided for in the last appropriation is nearly completed, and will furnish accommodation for the books for the next quarter of a century.

The course of instruction has continued without material change, except in the case already noted of the department of physiology and hygiene. It is, however, the unanimous opinion of the Academic Board that important changes should be made; at the same time it is considered inexpedient to make any change until the course of instruction be reduced to four years, as recommended in my last report. Changes in the course of studies involve disadvantages at all times, and should only be made when necessary; for this reason the Board is disinclined to make any recommendation in the matter until the important question of the length of the course can be finally decided.

I therefore urgently recommend that the course be reduced to four (4) years, as provided in the bill presented by the Naval Committee last winter.

The general character of the summer practice cruise was somewhat modified by the plan of assigning marks for the practical work of cadets of the first class.

The plan has worked well, as shown by the report of the officer commanding, and it proposed to extend it to other classes and other work.

It is thought that manual skill in the machine shop, activity aloft as a sailor, and officer-like bearing in the performance of duty should have

a more direct bearing in determining the class standing than has heretofore been the case.

The recommendation of the commanding officer of the practice cruise regarding the method of detailing men for that cruise, is fully approved, and I would urgently suggest that an exception be made in the case of the Academy with reference to general-service men, and that a limited number of selected men be detailed for the Academy, these men to constitute the leading men of the practice cruise. They have a great influence even upon the moral character of the cadets, not to mention their many important functions in assisting the young men in learning their profession.

This must be the case when a hundred or more cadets are placed on board ship for several months to perform the same duties as the men. This close relation between the sailor and the future officer is of incalculable advantage to the latter in assisting him to learn the little matters of a sailor's profession, and in bringing the young officer into complete sympathy with the men he must learn to command. The advantage of having good men is manifest, and the injury which may be done by bad and incompetent men is equally apparent.

It is unnecessary to repeat the recommendations which were submitted with the annual estimates.

Of the 31 members of the class who passed their final examination in June, after two years at sea, 20 were admitted to the service, and 11 were honorably discharged.

I respectfully suggest that those cadets who fail to obtain positions in the Naval Service, after four years at the Academy and two years at sea, are well qualified for positions in the Revenue Service. This subject has been considered by the Department before, and a similar recommendation has been made in connection with other changes, involving a transfer of the Revenue-Marine Service to the Navy Department. Without any reference to the merits of such a change, I think it would be a source of economy, aside from its other advantages, if graduates of the Naval Academy were appointed to fill vacancies in the Revenue-Marine Service, which, probably, could be accomplished by an understanding between the two Departments interested and without legislation.

Respectfully submitted.

W. T. SAMPSON,
Commander, U. S. Navy, Superintendent.

THE SECRETARY OF THE NAVY,
Washington, D. C.

REPORT OF THE CHIEF OF THE BUREAU OF YARDS AND DOCKS.

BUREAU OF YARDS AND DOCKS,
NAVY DEPARTMENT,
Washington, D. C., October 15, 1887.

SIR: The following report of the operations of this Bureau, and tabulated statements of the expenditures for the fiscal year ending June 30, 1887, is hereby respectfully presented. Accompanying these are submitted to your consideration the estimates for the fiscal year ending June 30, 1889.

The amount of estimates submitted by the commandants of the different navy-yards and stations are as follows, viz :

For improvements	\$3,378,406.82
For general maintenance	405,325.82
For repairs and preservation	1,063,767.50
For Naval Asylum	129,611.00
For civil establishment	68,670.54

Grand total..... 5,045,782.68

After a careful examination of these estimates submitted from the various yards and stations, the Bureau has made a very material reduction in the amounts asked for under the various appropriations, and submits the following estimates :

For support of Bureau of Yards and Docks.....	\$10,980.00
For improvements at navy-yards	955,591.56
For general maintenance and contingent	260,000.00
For repairs and preservation	400,000.00
For support of Naval Asylum.....	90,111.00
For civil establishment.....	54,101.01

Total..... 1,770,783.57

The tabulated statements that follow this report show in detail the amount of expenditures and estimates for the several navy-yards and stations and the Naval Asylum under the various heads of "Improvements," "Repairs," "Support of the Naval Asylum," "Civil establishment," "General maintenance," and "Contingent."

The several appropriations made for the fiscal year ending June 30, 1887, have been expended with the greatest economy, and as much done as was possible with this limited amount to arrest the deterioration of the Government property under the control of this Bureau, the sum, however, being so small it had but little effect.

The increased appropriation made for the present fiscal year will enable attention to be paid to some of the more pressing wants, but is insufficient, unless continued from year to year, to arrest and repair this long-continued state of deterioration.

Your attention was called to this condition of affairs last year in the statements made by me in my annual report, some of which I will repeat:

Under these circumstances I hope that the attention of Congress will be earnestly called to the urgent necessity for an appropriation of adequate amounts to repair and preserve our defective wharves, water front, and buildings, and to put in order and extend our meager docking facilities.

True economy, good administration, and proper attention to the present as well as the future needs of our naval establishment alike require it.

When one compares the condition of our naval stations in the large ports with the private and corporation property in their proximity, it compels a sense of humiliation, both to the private citizen and naval officer, and seems to indicate a state of bankruptcy rather than the wealth and power of a great nation.

For the reasons mentioned it is hoped that Congress will be urged to grant to this Bureau the entire amount asked for under the heads of "Repairs and preservation" and "Maintenance."

The water-front of our navy-yards, as a rule, affords insufficient space for vessels repairing, fitting out, or discharging stores, and as a large proportion of this water-front and wharfage is of timber and subject to decay, etc., this already inadequate wharfage is still further reduced, and a constant demand is made upon the appropriation for "Repairs and preservation" for this purpose alone. It is considered, therefore, by this Bureau, to be both advisable and economical that appropria-

tion should be made from time to time by Congress of moderate amounts to gradually construct permanent water-front of stone or concrete, and to reduce either what will be a yearly large expenditure of money, or, wanting that, a state of dilapidation.

Estimates accompany this report for an extension of the permanent water-fronts of the important navy-yards at Norfolk, Va., and Mare Island, Cal.

At the last session of Congress an appropriation was made for two timber dry-docks, to be located at such navy-yards as the Secretary of the Navy should direct. In accordance with this requirement, the dry-docks were located by your order at the navy-yards at Brooklyn, N. Y., and Norfolk, Va., and the sites duly selected. The appropriation becoming available at the beginning of the present fiscal year, these works are under contract for an amount within the appropriation, and will provide in part for an urgent need, leaving, however, the Atlantic coast south of Norfolk and the entire Gulf coast still unprovided with any docking facilities, public or private, for vessels of and above 4,000 tons. This matter is further discussed under head of "Navy-yard, Pensacola."

Under the heads of the different navy-yards and stations that now follow I submit my views upon such objects and estimates as are deemed worthy of special mention.

NAVY-YARD, PORTSMOUTH, N. H.

During the last fiscal year the boilers and pumps of the floating balance-dock have been put in good working order, and an amount has been allotted from the appropriation of "Repairs, etc.," for the present year to complete the repairs and put the entire structure in good condition. The principal source of supply for fresh water at this station is from the ponds at Seavey's island. It is stated that this source of supply will be ample if the ponds are cleaned and an additional reservoir and piping is furnished. An estimate of \$6,350 for this purpose is submitted.

NAVY-YARD, BOSTON, MASS.

During the last fiscal year but little was expended at this yard, the available funds not permitting a large allotment, but a larger amount will be assigned from the increased appropriations of this year, in addition to the amounts especially appropriated for rebuilding some of the wharves and for the floating gate. For the purpose of rebuilding this latter structure an appropriation of \$31,000 was made by the last Congress, to be immediately available. Proposals were asked for this purpose, using iron as a material, on May 25 and June 30, 1887. At the latter time the plans were modified in some non-essential particulars to reduce the cost, but in both instances the bids were in excess of the amount appropriated, being \$37,800 at the first and \$33,500 at the second opening. Under the circumstances it was determined to rebuild the caisson of wood with our own force at the navy-yard, and this work is now in progress. In accordance with your directions one of the buildings at this yard has been altered by this Bureau, and adapted in a satisfactory manner as a naval prison, and is now ready for use.

I desire to renew again the estimate for repairing and replacing the water pipes of this yard; \$32,000 is asked for this purpose, the need of which is urgent, as large quantities of water are continually wasted, and



the whole system is in a bad condition. An estimate of \$25,000 is submitted for rebuilding wharves, the whole amount asked for last year not having been granted, Wharf No. 5 especially being so unsafe as to be out of service. An estimate of \$28,610 is also submitted for rebuilding quarters for four officers. The houses L, M, N, and O being in such condition that either their complete reconstruction or the erection of other quarters as substitutes should be undertaken.

NAVY-YARD, NEW YORK.

The following are the works of improvement that have been in progress during the past fiscal year at this important yard:

The work of dredging the Wallabout channel, removing broken crib-work that had fallen into the channel, and dredging out the cob-dock basin, referred to in my last annual report, was continued and completed as far as the funds would permit, on October 19, 1886. By that time a total amount of 216,731 cubic yards of material had been removed, the Wallabout channel having been dredged to the depth required, and a mooring area of $5\frac{1}{2}$ acres obtained in Whitney basin, which is now used for vessels in ordinary. A new entrance-way into the basin was also completed December 4, 1886, of sufficient width and of a uniform depth of 18 feet. This involved some sheet-piling and crib-work at the inner end, which was finished in May, 1886. The work upon the repairs of the granite dry-dock still in progress, a number of delays having occurred, among which were the constant demand for the use of the dock and the difficulty of obtaining the proper hydraulic cement. The work is now progressing favorably, and it is hoped that the dock will be ready for use early in the coming month of December.

Two new boilers obtained from the Bureau of Steam Engineering without cost, of a type no longer used afloat, have been substituted for a boiler disabled from constant use at the dry-dock.

Buildings Nos. 2 and 7 have been altered and refitted under the direction of this Bureau, by your order, No. 2 for a general store-house and No. 7 for various offices formerly located in No. 2. This work has been performed in a satisfactory manner.

Your attention is respectfully called to the following estimates, which are selected by me from a number made from this yard as being necessary and important: Fifty thousand dollars (\$50,000) is asked for continuing the repairs to the cob-dock, a large part of the crib-work being in danger of falling into the channel at any moment. A sum of \$68,340.47 is asked for a boiler-shop wing to the machine-shop. This addition is needed by the department of steam engineering at this yard for convenience and additional space, the construction of all boilers being concentrated at this yard and at Norfolk, Va. In addition estimates are submitted as follows:

For a general paint and oil store.....	\$25,000.00
Beef and pork packing house	20,000.00
One building for four officers' quarters	23,000.00

NAVY-YARD, LEAGUE ISLAND, PA.

If this yard is to be retained and used for naval purposes, another wharf is needed at the foot of Fifteenth street, for which the sum of \$26,000 is asked, and an estimate of \$30,000 is submitted for the erection of four officers' quarters in place of houses now rented in the city of Philadelphia at a distance from the navy-yard.

To make this yard available for building and repairing vessels, one of the first requisites will be additional dredging and filling in. In case this action is determined upon, a further estimate of \$155,000 for this purpose is submitted.

NAVY-YARD, NORFOLK, VA.

The importance of this yard, with its fine position, mild climate, and abundant natural resources within control, cannot be overestimated, and it is earnestly recommended that every opportunity should be taken to make its equipment ample in all particulars.

No funds having been appropriated, there have been no works of improvement undertaken or in operation for the fiscal year just ended.

The repairs upon the various buildings and wharves were limited to those most urgently needed on account of the want of funds.

The amount appropriated for railroad extension by the last Congress being insufficient, an additional amount of \$25,000 is asked for to complete the system.

It having been determined to build an armored vessel at this navy-yard, an estimate is hereby submitted of \$75,000 to provide a permanent building, for iron and steel shops, to contain such portion of the plant as needs such shelter.

An estimate is also submitted for the extension of the quay wall along the water front; this matter has been referred to in a preceding paragraph, and the erection of this permanent wall will be found economical, especially at this station. The wet-basin, constructed for the preservation of timber, which divides this navy-yard into nearly two parts, is becoming of less and less importance for its original purpose. Its position would make it available for a fitting-out basin, and in this manner the available water frontage of the yard and the convenience of transportation would be materially increased. An amount of \$50,000 is asked for, to be expended towards this purpose.

The following amounts are required to prosecute works of improvement much needed at this yard:

For boiler-shop extension.....	\$14,488
For the erection of quarters for two officers not now provided for	15,000
For providing a system of water-pipes.....	17,811

NAVY-YARD, MARE ISLAND, CAL.

This navy-yard is our only naval station on the shores of the Pacific. It would be our only base for naval operations for the defense of the ports of this coast, for the protection of our Pacific trade, and for the assertion, if it should become necessary, of the dignity and strength of the nation upon this the greatest of all ocean areas. At present European naval powers are rapidly acquiring the insular countries of this part of the world, their movements advancing so far as to make among themselves a virtual partition of the western Pacific, and extending so far of late as to practically annex groups of islands where American trade and civilizing influences had been heretofore paramount. In considering these movements the possibility does not seem a distant one that our extreme western territory may be hampered and surrounded by the possessions of aggressive naval powers. This, in addition to the immense development upon land and sea in the Pacific that will follow the opening of an interoceanic canal, will force upon this country a greater naval activity, for which we should be prepared. Not only

should the question be considered of the establishment of additional naval resources in the waters of Puget Sound, the great coal and iron regions of the future upon this coast, but measures should be taken to place this our only naval station now existing upon the coast in a fully equipped condition. When the emergency arises, and the strain and stress of preparation or actual war is upon us, there will be no time for the establishment of the necessary works, which require considerable time for construction and a continuous though not extravagant expenditure of money.

During the past fiscal year the work upon the new dry-dock at this yard has progressed as rapidly as the weather and the delay of one of the contractors, M. J. Kelly, has permitted. The work has been confined to the dressing and setting of the granite lining of the dock chamber. This work, however, does not interfere with the use of the structure, and on the 30th October, 1886, the first ship, the U. S. S. *Independence*, was docked in a most satisfactory manner, everything in the flooding, the working of the caisson, and the pumping out of the dock proving a gratifying success.

On October 13, 1886, proposals were opened for the supply of the granite required to finish the dock, and notwithstanding the low price of the previous year, \$1.29 per cubic foot, the Bureau was much pleased in being able to award this the last contract for granite at the lower rate of \$1.27 per cubic foot, to M. J. Healey & Co., who have since proven in every way satisfactory contractors. The work is being pushed forward to completion as rapidly as the circumstances will allow.

The construction of the iron crane or shears, the commencement of which was referred to in my last annual report, has been finished, and this fine hoisting apparatus of iron and steel, with a lifting capacity of 100 tons, was put in place on the 10th of last March. The entire cost was \$41,375, the construction being made at the shops of the navy-yard under the direction of Chief Engineer G. F. Kutz, U. S. Navy, the foundation being placed and the final erection made under the supervision of Civil Engineer Wolcott, U. S. Navy. This yard has now a hoisting-shears, with sliding back leg, superior to that of any other of the navy-yards, and the successful construction and erection of this apparatus within the navy-yard entitle those engaged upon it to much credit.

The work upon the artesian well was renewed by a bondsman of the failing contractor, and has reached a depth of 1,330 of the 1,500 feet contracted for, but without obtaining any satisfactory flow of water.

The water-front of the yard has been dredged to a depth of 25 feet at low tide and the necessary repairs made to the buildings, wharves, and roads, including the alterations necessary to adapt one of the buildings for a general store-house. An estimate is submitted for \$4,200 to complete the floor of the boiler shop and lay the foundation for the heavy tools now on hand and awaiting this work.

The appropriation of a sum of \$16,664.09 for the removal of the gas-holder from its present place and its erection in another locality is again urgently requested. The present condition of affairs is unsafe and involves danger of explosion, which in working hours might cause both loss of life and property.

An estimate is submitted for a sum of \$30,000 to build a wharf from the coal-house to the foundry, as at present this important part of the yard has no direct access to the water, which forces much laborious hauling of heavy machinery, material, and tools from a distant wharf.

In addition, an estimate of \$110,000 is submitted for the further extension of the permanent water front or quay wall from the unfinished end of the existing wall. These improvements along the water front will give a straight front and prevent the formation of eddies and consequent deposit of mud.

Estimates are submitted for the additional purposes mentioned below :

One 12-ton swinging crane	\$4,000
For improvement of roads	15,000
For pile-driver	5,000
For boat landings	5,000
For gate and guard house	10,000
For crane scow	7,000
For mud scow and ash-lighter	4,000

NAVY-YARD, PENSACOLA, FLA.

The Navy-Yard Commission in its report made in 1883 pronounces the present site of this yard untenable and indefensible in time of war; but recognizing the necessity for a navy-yard on the Gulf, they recommended the appointment of a commission to select a site within the lines of defense on Pensacola Bay or in some other locality. This opinion coincides with that of many other competent authorities.

The necessity for a naval station upon the shores of the Gulf, properly equipped, is imperative for the future, not only from the possibilities likely soon to arise in these waters and the adjoining West Indian countries and seas, but also because a station is needed as a base for the naval defense of our own coasts and the protection of the outlets of our Gulf and Mississippi trade. England, France, and Spain have naval stations upon adjacent islands, and at Martinique, a French island not far distant, is the only dock capable of taking a vessel of over 4,000 tons south of Norfolk and Bermuda along the North American coast.

Pensacola, although defective in some respects, combines more advantages for a naval station than that afforded by a detached, exposed, position like Key West or a site upon the uncertain and varying banks of a swift river like the Mississippi.

The site of the yard should be moved to the upper part of the bay and nearer the city, where railroad connections can be readily made. The docking facilities at the yard now consist of fragmentary portions of what was intended to be a large sectional dry dock. The parts now at the navy-yard, though cared for as much as possible, suffer deterioration, from year to year, and would involve a cost of more than \$75,000 to put in working order, and, furthermore, would then only have a lifting capacity of 1,400 tons. There being no deep basin prepared for its reception, the sections would have to be moored at some distance from the yard front, in order to be placed in a sufficient depth of water. It would be much more advantageous and permanent to construct an excavated dock upon a newly selected site.

I have not deemed it wise under these circumstances to expend any more money than is necessary for the care of property at this place, or to submit any estimates until the question of the site is finally settled.

NAVAL STATIONS, ETC.

Naval station, New London, Conn.—No work of any kind has been done or proposed at this station, and the expenditures incurred were only such as were found necessary to care for the property now there.

Navy yard, Washington, D. C.—This yard has been set aside as an ordnance-manufacturing yard. This Bureau has, however, been called

upon to expend sums for maintenance, and for the repairs that were necessary from time to time. An estimate is submitted for \$15,000 for dredging the channel to the yard, and for \$3,000 to provide a substantial fence along the east side, now entirely open.

Naval station, Port Royal, S. C.—The storehouse and shed, reported last year as contracted for, has been finished in a satisfactory manner, with suitable room for stores, and with a storage capacity for 1,500 tons of coal. Cisterns were also built to catch the rain from the roof, and a railway is being constructed for the transportation of coal from the shed to the wharf. Estimates are submitted for an artesian well, for fencing, and for a boat-house, the total amount being \$1,628.

Naval station, Key West, Fla.—Only the repairs absolutely necessary for the proper care of the building and coaling facilities have been expended here. An estimate for \$8,000 is here submitted for the erection of quarters for two officers. It is no more than bare justice that the hardships of the officers who are stationed here should be relieved to an extent in this manner. The facilities for living here in a decent manner are at best but meager, and the recent calamities of fire and yellow fever in this place aggravate this want. An estimate of \$30,000 is submitted for the purchase of an adjustable stern dock for this place, which now has no provision whatever for docking.

Naval station, Sackett's Harbor, N. Y.—This station has been closed for many years, and only the amounts necessary for the care of the little property here has been expended at this place.

NAVAL ASYLUM, PHILADELPHIA, PA.

The expenditures at this institution for the fiscal year ending June 30, 1887, are as follows:

Pay and pocket money for beneficiaries.....	\$5,772.79
Tobacco.....	1,004.56
Clothing, boots, and shoes.....	7,607.72
Subsistence.....	20,008.11
Paints, dry goods, lumber, coal and wood, provender, hardware, miscellaneous and house sundries.....	9,740.56
For support of beneficiaries.....	44,133.74
Pay of employes.....	9,243.50
Repairs to buildings, for grates, ranges, furniture, and repairs to furniture.....	3,586.80
Water rent and gas.....	1,545.62
Cemetery, burial expenses, and headstones.....	346.57
Improvement of grounds.....	498.60
Total expenditure for year 1886-'87.....	59,354.83

Estimates are respectfully submitted for the Naval Asylum for fiscal year ending June 30, 1889, as follows:

For pay and pocket money for beneficiaries.....	\$6,600.00
For clothing, boots, and shoes.....	10,000.00
For tobacco.....	1,100.00
For provisions.....	24,000.00
For ice.....	400.00
For coal and wood.....	3,000.00
For stores of dry goods, paints, lumber, provender, hardware, miscellaneous and house sundries.....	8,000.00
Total support of beneficiaries.....	53,100.00
For transportation of indigent and destitute beneficiaries to Asylum.....	500.00
For pay of employes.....	10,061.00
For water rent and gas.....	1,800.00
For cemetery, burial expenses, and headstones.....	350.00
For improvement of grounds.....	500.00

For repairs to buildings, furnaces, grates, ranges, furniture, and repairs to furniture	\$4,100
For music in chapel	600
For erecting brick building in rear of main building for kitchen, laundry, and servants' room	17,500
For fitting up bath-room with twelve tubs for beneficiaries	800
For removing range, laundry, boilers, and tubs to new building, and for plumbing	400

Total for year ending June 30, 1889 90,100

Capt. Joseph S. Skerrett, U. S. Navy, who has carefully administered the affairs of this institution for the past fiscal year, reports that the conduct of the beneficiaries has been, on the whole, commendable during that time. An increased gratuity has been given those men who are deserving, adding in this way materially to their comfort.

As large a liberty as is consistent with good order and administration and a proper accountability is granted the beneficiaries, and the constant endeavor of the Bureau is to make of the institution a comfortable home for disabled men of the Navy and Marine Corps. In this connection it is again recommended that the name of the Asylum be changed to the "U. S. Naval Home," in order to more exactly describe the character and represent the intentions of its foundation. The institutions for similar purposes for the regular and volunteer soldiers of the United States now bear the name of homes.

The following statement shows the changes during the past fiscal year:

On rolls July 1, 1886	201
Admissions, year ending June 30, 1887	21
Readmissions	1
	<hr/> 223
Died during fiscal year ending June 30, 1887	28
Dropped for absence without leave	1
Transferred to Government Hospital for Insane	1
	<hr/> 30

On rolls July 1, 1887..... 193

Owing to the unusual number of deaths, there has been a slight reduction in the number of inmates, and though this death rate is not expected to continue, still there seem to be sufficient data to allow the formation of the opinion that there will be no material increase in the number during the next few years; consequently provision for the further comfort and good care of these aged and deserving beneficiaries of the nation now engages the consideration of the Bureau and the authorities of the institution. To this end the purchase of improved laundry apparatus was authorized during the past fiscal year, which is now working most successfully and economically.

I again ask the appropriation of the amount (\$17,500) estimated to be necessary for the erection of a brick building in the rear of the Asylum.

This has been repeatedly urged as necessary by the various governors for the greater comfort of the inmates of the Asylum, the present kitchen and laundry being situated in the basement, directly under the quarters of the officers and men, rendering them hot and uncomfortable in summer and vitiating the air of the building at all times. By the removal of the kitchen and laundry to the new building this will be obviated; proper quarters will be set apart for the female employes, and increased bathing facilities can be furnished to the institution.

The Bureau approves of the repeated recommendation of the governor of the Asylum for increase of pay of the employes; especially is this



necessary in regard to the chief cook and assistant cooks. It is a matter so directly connected with the daily life of the inmates that pay commanding a better grade of employés in this particular will be felt most sensibly and constantly by them.

An estimate for \$500 is given for the transportation of men who have been granted a permit to enter the Asylum, but who, being out of service, are, from poverty, unable to pay their transportation to the Asylum.

The Bureau has no means whatever to defray these expenses, and it is but justice that the disabled servant of the nation should not be compelled to beg for means to reach the Asylum after he has received a permit to enter.

In closing this reference to the Naval Asylum, as a matter of justice to the inmates, I would call attention to the generous expenditure made by the trustees of a somewhat similar institution, the "Sailors' Snug Harbor of New York," for grounds, buildings, and comfortable appliances for their disabled inmates. It is true that this institution is richly endowed, but as its wealth can not compare with the wealth of our Government, neither should its generosity exceed that of the national generosity towards men who have been for many years faithful and disabled servants.

I trust that you will cause a comprehensive examination of this whole subject to be made, which should, in the opinion of the Bureau, result in the removal of this institution to a suburban site, and insure its establishment upon a more modern and generous footing.

CONTINGENT.

The sum of \$40,000 required under this head is to meet unforeseen emergencies and accidents that may arise, calling for an immediate outlay.

GENERAL MAINTENANCE.

For this an amount of \$220,000 is asked, as the most pressing and necessary expenditure of the different yards come under this head, such as repairs of fire engines, purchases of horses and oxen, and their maintenance, carts and tools, coal, water and gas, telegrams, incidental labor, pay of watchmen, cleaning yards, the care of buildings, purchase of and care of machinery of every description, rents, etc. The need for the amount estimated is consequently obvious. On account of the reduced appropriations of the past few years, there has been a deficiency caused in the live stock, vehicles, in furniture especially, and general cleaning and care of the yards.

REPAIRS AND PRESERVATION.

The amount asked (\$400,000) under this head is reduced to what is considered necessary for the purposes referred to in the first part of this report. With this amount regularly given the Bureau hopes to restore the various objects under its care to a proper condition.

The entire amount asked for by the Bureau is \$1,770,783.57, the detail of which is contained in the tabulated statements Nos. 1 to 6:

1. For support of Bureau of Yards and Docks.....	\$10,980.00
2. For general maintenance and contingent.....	260,000.00
3. For support of Naval Asylum	90,111.00
4. For repairs and preservation.....	400,000.00
5. For improvements at navy-yards.....	955,591.56
6. For civil establishment.....	54,101.01

Total..... 1,770,783.57

Accompanying this report is an abstract of offers for supplies received for furnishing articles coming under the cognizance of the Bureau of Yards and Docks, made in conformity to the act of Congress approved March 3, 1843.

A statement showing the amount expended under each specific head of appropriation during the fiscal year ending June 30, 1887, and the balances remaining on hand June 30, as required by section 429, Revised Statutes, is appended.

Also a report showing the amount expended during the fiscal year ending June 30, 1887, from appropriations pertaining to this Bureau for civilians employed on clerical duty or in any other capacity than as ordinary mechanics and workmen at the several navy-yards, with estimate for the same for the fiscal year ending June 30, 1889, in compliance with the third section of naval appropriation act approved January 30, 1885.

Very respectfully, your obedient servant,

Hon. WM. C. WHITNEY,
Secretary of the Navy.

D. B. HARMONY,
Chief of Bureau.

REPORT OF THE CHIEF OF THE BUREAU OF EQUIPMENT AND RECRUITING.

BUREAU OF EQUIPMENT AND RECRUITING,

NAVY DEPARTMENT,

Washington, D. C., September 1, 1887.

SIR: I have the honor to submit the following report of operations of the Bureau for the fiscal year ending June 30, 1887, and to inclose estimates for the fiscal year ending June 30, 1889.

For the year ending June 30, 1887, the following amounts under the several headings were appropriated:

Equipment of vessels.....	\$782,200
Transportation and recruiting.....	25,000
Contingent	20,000
Civil establishment	16,800
Training station (for boys), Coaster's Harbor Island.....	8,000

At the various yards, to wholly or to partially refit vessels, and to supply them with stores, there was an expenditure of \$70,677.92 for labor, and \$357,137.80 for material, aggregating \$427,815.72, from the appropriation "Equipment of vessels."

I am glad to be able to report that the appropriations for the year were found sufficient, and that there are considerable unexpended balances to turn back into the Treasury under the several headings.

* * * * *

TRAINING APPRENTICES FOR THE NAVY.

Coaster's Harbor Island.—The permanent headquarters of this service has been for the past year under the command of Capt. A. R. Yates, U. S. Navy. His zealous attention to the arduous duties of this station, and his efficient administration of its affairs, are worthy of the Bureau's commendation. As much work in dredging channels, extending wharf, repairing walls, and in general maintenance of station as the very lim-



ited appropriation allowed has been done, but there is still needed a complete natatorium, with heating attachment so arranged as to raise the temperature of the water during the winter, that instruction in swimming, an important feature of the education of boys, may be continued the year round. If this instruction be limited, as now, only to the summer season, those apprentices enlisting during the fall and winter months would leave the training station in the early summer of the following year without any instructions in one of their most important needs.

The great progress in all matters of naval science and of naval construction has made preliminary training for the duties of the seamen of the naval service an absolute necessity, in order to comprehend the various appliances now used in propulsion, in lighting, in handling guns, in boats, and in torpedoes of the modern ships. This training station for boys is, therefore, to become the great nursery upon which we are to depend for trained seamen, and in this view will need other additions to its appliances to give the needed instruction.

At present, after enlistment on board the *Minnesota* at New York, the *Wabash* at Boston, the *Saint Louis* at Philadelphia, the *Dale* at Washington, and the *Michigan* on the Lakes, these lads are sent to the headquarters at Coaster's Harbor Island, where they remain usually about six months, to be taught the elements of arithmetic, geography, history, writing, the primary duties of the young sailor, such as splicing and knotting ropes, handling the palm and needle, heaving the lead, boxing the compass, reefing and furling sails, pulling in boats, drilling at great guns, at artillery, and at infantry drills. This instruction is supplemented by gymnastic exercises, small-sword drills, and a class of boys who exhibit taste for the bugle are trained in the bugle-calls used in the service. Swimming is taught them in the summer months.

This course of instruction is so well divided up, that each week includes some training in each of the subjects enumerated above.

This preliminary headquarter training being acquired, the apprentices best qualified are transferred to the cruising training ships *Saratoga*, *Portsmouth*, and *Jamestown*, and are sent abroad in the winter months to the West Indies, and in the summer to Europe, to learn at sea the duties of a sea-life in the somewhat higher duties of the sailor.

The following exhibit shows the number of apprentices in the service June 30, 1887:

Number on board stationary and cruising training ships.....	534
Number on board cruising ships of the general service.....	550

Total..... 1 084

On board the cruising ships of the general service they are distributed as follows:

North Atlantic station	147
South Atlantic station	96
Pacific station	137
European station	46
Asiatic station	124

Total..... 550

During the year there were 2,003 applicants for enlistment as apprentices. Of this number there were 1,427 rejected on account of physical disqualification and 66 for other causes, making the number accepted 510; of these 125 failed to report for enlistment after examination, so that the number actually received into the service was 385.

PENSIONS.

The following table exhibits the pension cases submitted to the Bureau during the fiscal year, under the sixth section of the act of March 2, 1867, sections 4756 and 4757, Revised Statutes of the United States:

	Claims pending July 1, 1886.	Claims filed during year ending June 30, 1887.	Claims allowed during year ending June 30, 1887.	Claims disallowed during year ending June 30, 1887.	Claims pending June 30, 1887.
For service of twenty years.....	49	26	27	18	30
For service of ten years.....	39	21	12	19	29
For renewal of pension.....	1	15	13	1	2
For increase of pension.....	2	6	2	3	3
For restoration of pension.....	0	3	3	0	0
For review of claim.....	0	1	0	1	0
Total.....	91	72	57	42	64

ENLISTED MEN.

On June 30 there were 8,342 men and apprentices in the service. The number allowed by law has not been exceeded during the fiscal year.

Men allowed.....	7,500
Men enlisted at the different navy-yards.....	2,211
Men enlisted on board ships.....	2,283
Discharges during the year.....	3,827
Honorably discharged and continuous-service men in Navy, June 30....	1,523
Desertions during the year.....	773
Deaths during the year.....	60
Men employed in Coast Survey.....	275
Men employed in Fish Commission.....	136
Men at Naval Academy (winter).....	94
Men at Naval Academy (summer).....	281
Number of men enlisted during year under C. S. C.....	597
Number of men who enlisted and who were formerly apprentices.....	88
Cost to maintain men in Coast Survey for the fiscal year.....	\$151,051.31
Cost of maintaining men in Fish Commission for the fiscal year.....	\$65,679.97

In making the various inspections of receiving ships during the year, the Bureau has observed the attention to cleanliness and order paid by their commanding and other officers. The men enlisted are carefully examined in accordance with prescribed regulations, and only those whose physical standard is up to the regulation are selected. I have found the officers of these vessels much interested in their duties, and in many ways have devised means to improve the training of men after enlistment. The men themselves are, as a rule, well behaved and orderly, and in most cases respond readily to the interest manifested in them. The vessels for recruiting and receiving men are the *Wabash*, at Boston, Capt. J. N. Miller; the *Vermont*, at New York, Capt. W. A. Kirkland; the *St. Louis* at Philadelphia, Capt. H. B. Seeley; the *Dale*, at Washington, Commander Yates Stirling; the *Franklin*, at Norfolk, Capt. G. C. Wiltse; the *Independence*, at Mare Island, Commander John W. Philip. Most of the vessels enumerated are old frigates converted to the purposes of recruiting, and are commodious and in fair order of preservation.

The efficiency of the enlisted men of the general service is testified to at almost all inspections of vessels preparing for, or returning from, foreign service by the board of inspection. The better care of men, their better ration, and more attention to their comforts, are the means by which so desirable a condition is brought about. The improved condition of the new ships now coming into service will enable the commanding officer to add still more to the men's comfort.

ADVANCED COURSE OF INSTRUCTION FOR SEAMEN.

During the year there have been placed under instruction about 40 men taken from the general service. The object sought in this course of training has been to bring a limited number of the men of the service into contact with the every-day needs of the new vessels. At the Washington yard they remain for a period of about six months, and are trained in the use of tools, the manner of building up the new guns, with their various attachments, breech-blocks, etc., how to manage and control their machinery, the preparation of the new ammunition, the management of machine guns, and the control and care of search lights. At Newport a further training of six months is given to electric work of every character; to diving, to torpedoes, to printing, to the preparation of torpedo outfits, to the management of dynamos, to lighting electrically, to the fabrication of nitro-glycerine and other high explosives. Each class, as trained, is transferred to the general service as seaman gunners, and, in time, its members are made use of to train the crews of ships to which transferred.

RECOMMENDATIONS.

The force of men attached to the Naval Academy, the Coast Survey, and the Fish Commission taken from the number, 7,500, allowed by law, often cramps the Bureau in fitting out additional vessels for service. I would recommend that 700 men additional be asked for for this special service.

Honorably discharged men are granted by law a gratuity of three months' pay if they present themselves at any rendezvous and re-enlist within three months from date of discharge. The evident object of this law is to encourage men once in the service to continue in it, and the payment of three months' gratuity on re-enlistment at any time within the statutory limit actually assumes the man to have continued in the service during this interval. This being the case, the Bureau would recommend for your consideration some legislation to allow these honorably discharged men to elect a home on board any of the receiving ships during these three months, the men desiring this privilege to be entitled to one ration per day for maintenance, and to be amenable to such regulations while there as the Secretary may establish. Such legislation would save many valuable men to the Navy, and would give them relief from the uncleanly and miserable boarding places of our large cities.

In 1872 a law was enacted by which the enlisted men of the Army were allowed to deposit their savings in sums not less than \$5 with any Army paymaster. These savings are not subject to forfeiture by sentence of courts-martial, but are forfeited by desertion, and are paid the soldier on final discharge, or to his heirs if deceased. Section 1306 establishes the rate of 4 per cent. interest per annum for any sum not less than \$50 deposited for a period of six months or longer, to be paid when

discharged. As a matter of discipline on board ships it is necessary to retain a large proportion of the pay of enlisted men, while the manifest impropriety of paying out large sums of money monthly to men who have no opportunity at sea to send it home, or to spend it for their needs, hardly requires discussion, but there would be much danger that gambling, fraud, or theft would result, to the injury of discipline and to the prejudice of good order. I would recommend that section 1306 be limited to apply to the enlisted man's pay only, otherwise it might be possible to deposit a friend's money and thus obtain interest, contrary to the good intent of the law.

On the 14th of February, 1885, Congress passed an act creating a retired list for the enlisted men of the Army and Marine Corps, after thirty years of service. Upon application to the President, men having such service are placed on the retired list with 75 per cent. of the pay of the rank in which retired. The Bureau would recommend to your consideration such amendment of the statute as will include the sailor, whose life of exposure on the high seas, or to the contagious epidemics of foreign ports, or to the special privations of his life on board ships in foreign ports, where most of his duty is done beyond the public observation, would appear to merit the same fostering care of his Government.

Section 2166 of the Revised Statutes confers citizenship upon aliens serving in the Army who may be honorably discharged at the expiration of enlistments. The Bureau is convinced that the omission to include men serving in the Navy was unintentional, and the recommendation of this matter to your consideration is respectfully made.

Article 2, section 1342, of the Revised Statutes, authorizes commissioned officers of the Army to administer the oath of allegiance to recruits. As this statute limits this authority to officers of the Army, we are without lawful authority to exact this oath from men enlisting for the Navy. Everywhere else in the military or naval service the oath of allegiance is required as a necessary preliminary to place. The Bureau would recommend the amendment of the above section to include the Navy.

The question of allowing apprentices an outfit of clothing is again urgently recommended. These lads receive only small pay. (\$9, \$10, \$11 per month) during their training and when serving on board the regular cruisers, but the same rigid rule of neatness in dress required of others is applied to them. It often results, then, during their minority that many of them hardly earn money enough to keep themselves properly clothed. But a greater trouble occurs when they begin their service and are compelled to draw an outfit of uniform clothing, which costs on the average about \$45. As the regulations prohibit the issue of money to persons in debt, or any gratification of leave of absence on shore during the period of indebtedness, it results that these lads are kept confined to the ship in which they may serve, or within the limits of a shore command, until the debt to the Government is liquidated. The dispiriting effect of this upon young growing boys may be imagined, but to be deprived of a small amount of spending money and all liberty during this interval of indebtedness is so discouraging that desertion often happens with theft of outfit, which is generally disposed of in order to secure the means to get away. I would recommend, then, an allowance of \$45 worth of clothing be given each apprentice when regularly enlisted and installed on board the training ship *New Hampshire*.

Another matter of vital importance to the enlisted men of the service is their accession to the privileges of promotion to grades of the

line. In some foreign services, as well as in our own Army, there is promotion for those enlisted men who, in battle or in peace, distinguish themselves. Under our form of government, which places no limit to the ambition of the worthy and efficient in their callings, it does seem to me inconsistent that the Navy should be the only service in which the career of enlisted men, however worthy or however heroic, should be limited to that of warrant officers. I would recommend, then, that from those apprentices who have served faithfully and efficiently until twenty-one years of age, and who shall re-enlist for three years, and shall have passed with credit and distinction through the advanced course of instruction at Washington and at the Torpedo Station, and shall be proficient in seamanship, navigation, and gunnery, two of the most distinguished in their studies and in moral qualifications be examined yearly for admission to the grade of ensign in the line of promotion. It needs no argument to prove that a measure of this kind would tend greatly to improve the *morale* of the enlisted man, but outside and beyond this, it would be but an act of duty and justice to a class in the service who have contributed so largely in the past to our victories in war.

These matters are held to be of vital importance to the efficiency of the service, to the contentment and welfare of the men, and, if adopted, will be the means by which desertion will be largely checked and the *morale* of the service much increased. The Bureau feels certain that it will only be necessary to call the attention of Congress to these matters to secure for the sailor the same benefits as has been awarded to his companion in arms of the Army and Marine Corps.

During the administration of Secretary Chandler permission was granted to Mr. W. A. Whaley to build a cottage on Coasters Harbor island. This building is well constructed, and would be useful to the purposes of the station. I recommend, therefore, to your consideration, an appropriation of \$2,500, or as much thereof as may be found necessary by a board to reimburse Mr. Whaley for his outlay.

Very respectfully, your obedient servant,

W. S. SCHLEY,
Chief of Bureau.

Hon. WM. C. WHITNEY,
Secretary of the Navy.

REPORT OF THE CHIEF OF THE BUREAU OF NAVIGATION.

BUREAU OF NAVIGATION, NAVY DEPARTMENT,
Washington, October 25, 1887.

SIR: I have the honor to submit the annual report of the operations of the Bureau of Navigation for the past year, together with the estimates for its support, and that of the offices under it, and for the expenditures which will, in my opinion, be necessary for the naval service during the fiscal year ending June 30, 1889.

Included in this report, and transmitted herewith, are the reports of the Superintendent of Compasses; the Naval Inspector of Electric Lighting; the Naval War College; the Hydrographic Office; the Naval Observatory, and the Nautical Almanac Office.

Compasses.—Forty-nine boat compasses have been repaired, sixteen new boat compasses have been purchased, and twenty-six steering com-

passes of the old pattern have been sent to the maker for conversion into the new form since my last annual report.

The model of compensating binnacle devised in the Bureau is in use on board the *Atlanta*, *Boston*, and *Dolphin*, and two of them have been set up on board the *Chicago*, in positions determined by a series of experiments to be the most favorable with respect to the magnetic field of that vessel. Recent observations taken on board the *Atlanta* at Newport in determining and compensating her compass errors are of special interest to the service, and are valuable as indicating the probable changes which will take place in the magnetic conditions of the steel cruisers now being built. As soon as these additional ships are sufficiently advanced, observations to determine their magnetic forces will be begun and continued from time to time until the vessels shall be completed.

In connection with this examination of the magnetic character of the vessels of the service, which was inaugurated after the keels of the steel cruisers, first authorized, were laid, I desire to call attention to the increased amount of work now required of the superintendent of compasses and his assistants (under the immediate supervision of the Chief of Bureau), and to the character of this work, upon the thoroughness and correctness of which the safety of a ship, when under way, must largely be due.

Navigation Supplies.—The contract for installing a duplicate incandescent electric light plant in the steel cruiser *Chicago*, referred to in the last annual report, was awarded to the Edison Manufacturing Company, which submitted the lowest bid for the work. This plant will light the ship thoroughly, or it will run the search lights. It may be well to state that there now seems to be no necessity for supplying separate incandescent and search light plants to ships of war, since the incandescent plants submitted will serve for both purposes, and thus save the additional weight and space allotted for a plant for search lights. I would also call attention to the importance of locating the engines and dynamos of electric lighting plants below the water-line on all ships, and below the protective decks in ships so constructed.

Your attention is invited to the accompanying annual report from Lieutenant-Commander R. B. Bradford, the naval inspector of electric lighting.

Signal books.—The publication of the revised General Signal Book has been retarded by the inability to subject the proposed modifications of the Tactical Signal Book to practical trials, and I refer to the recommendation contained in the last annual report as to the desirability of obtaining four of our larger tugs for the purpose of collecting data relating to the maneuvering of ships to determine the tactics likely to be followed by success if carried out in battle.

Libraries.—Additional professional books have been added to the libraries of cruising ships and three professional papers have been published, or are now in print. The first, No. 21, entitled "The Working of Steel," is reprinted from the proceedings of the Institution of Civil Engineers, London, and is a lecture by O. E. Stromeier, associate member of the Institution of Civil Engineers. No. 22 is entitled "Modern Fleets" and "Compass Disturbances in Iron Ships," containing two papers; the first, reprinted from the Proceedings of the Royal United Service Institution, is a lecture by Commander Charles Campbell, R. N., and the second is a lecture delivered at the Naval War College, by Lieutenant Cornwell, U. S. Navy, late superintendent of compasses. No. 23 is entitled "The Resistance of Ships," and is a republication of

the valuable papers by the late W. R. Froude, esq., on that subject, together with one upon the general subject by his son, R. E. Froude, esq.

Ocean Surveys.—Commander F. A. Cook, in the *Ranger*, has continued the work of sounding in the Pacific ocean, off the coast of Lower California, and of triangulating the coast from well-established points. The surveys of the coast to the northward of Sebastiano Viccaino bay have been engraved in the Hydrographic Office and are on issue, as well as all previous surveys of this coast to the southward of that locality.

It is important that the rocks and shoals which have been reported to exist in the Pacific ocean should be searched for and located, if found to exist, and that the errors on the charts of the Spanish Main, republished from the old Spanish surveys, should be corrected.

These reported dangers and the incorrect charts threaten our commerce in the West Indies, the Caribbean sea, and ships bound to and from San Francisco, and have been referred to in previous reports.

Department Library.—Additional professional books have been purchased for the library, but the collection is limited by the reduction of the annual appropriation referred to in my report for 1886.

Naval War Records.—The limited force of clerks and copyists now provided by Congress for collecting, arranging, and copying the naval war records prevents this important work from being pushed to completion as rapidly as the circumstances demand. Reference to this fact has already been made in previous annual reports.

Naval War College.—The repairs to the basement of the college building, referred to in my last annual report as being in progress, have been completed. It had been the intention to repair the roof and attic of the main building, as well as the out-buildings attached to the college, and to light the buildings throughout, this year; but, in consequence of the fact that the Bureau has been unable to use a portion of the amount appropriated by the last Congress in the act making appropriations for the naval service under the head of "Naval training station, Coaster's Harbor Island, R. I.," specifically "for repairs and improvements on buildings, heating, lighting, and furnishing the same, etc.," this necessary work has not been done. In other respects the buildings are in excellent condition, and well adapted for the purpose of training officers for the ordeal of war.

The third term of the college opened September 5, with a class of twenty-two officers of the Navy and Marine Corps, and will close December 22 next. The course was opened with a lecture by Commander Sampson, superintendent of the Naval Academy, relative to the objects for which the college was established, and the necessity for its continuation. A list of the subjects treated by the several officers who will lecture during the present term will be found in the programme for the college which accompanies this report, all of which treat very closely of the art of war. It is the intention of Rear-Admiral Luce, commanding the North Atlantic station, to supplement by practical exercises ashore and afloat in Narragansett bay the theoretical instruction which will be given in the lectures.

Hydrographic Office.—I beg to refer to the report of the Hydrographer for a detailed account of the operations of this important office during the past year. The branch offices established at Boston, New York, Philadelphia, Baltimore, New Orleans, and San Francisco, continue to increase in popularity with sea-faring men and those connected with commerce, and have undoubtedly been the means of supplying much valuable information to seamen, who have in general cordially co-oper-

ated with officers attached to the branch offices, and expressed their willingness to aid in collecting meteorological and other data relating to the ocean.

In this connection I would recommend that two more branch offices be established, one on the Atlantic and one on the Pacific coast; but the amount appropriated for the offices already established is entirely inadequate, and they could not be carried on were it not that office space has been generally furnished free of cost to the Government. The barge office in New York, built several years ago, for the examination of incoming passengers and their baggage, would afford sufficient accommodation for the branch office in that city. As the barge office is no longer used for its original purpose, its transfer to the Navy Department would afford conveniences for the collection and distribution of information of use to mariners, which it is impossible to obtain in its present location in the Maritime Exchange.

The present quarters assigned to the Hydrographic Office, within the Navy Department and without, are entirely too cramped for the officers and employes to properly carry on the hydrographic work; and I would suggest that an appropriation be recommended to construct a building especially adapted to its work, and that an increased appropriation be obtained for the purpose of renting a building of sufficient size until a new building can be completed.

Nautical Almanac.—The detailed report of the Superintendent supplies information as to the progress made in the preparation and sale of the annual publications of this office.

The party of astronomers sent to Japan by the National Academy of Sciences, under the direction of Prof. D. P. Todd, to photograph the phases of the solar eclipse which occurred on the 19th of August last, received the aid of this Bureau by the loan of astronomical instruments, and the volunteer services of two naval officers, Lieutenant Southerland and Passed Assistant Engineer Pemberton. One of the best points in that country was selected for this purpose, but the expedition was not successful in obtaining satisfactory results in consequence of the unfavorable meteorological conditions which prevailed during a portion of the period of the eclipse.

Naval Observatory.—The report of the Superintendent contains a record of the astronomical work performed by the staff of officers and assistants under his control. The examination of nautical instruments intended for issue to the service continues to prove by its results the advantages to be derived from careful and uniform technical inspection at a central station. Many of the sextants which have been mentioned in reports as available for issue have been found to be in such condition that their use would involve likelihood of serious errors in observations at sea, and I desire to renew my recommendation that authority be obtained to destroy unserviceable chronometers and sextants for reasons contained in previous annual reports.

Mr. R. M. Hunt has, with the approval of the Department, been employed as architect of the new Naval Observatory, authority for which is contained in the last two naval appropriation bills, and he is at present engaged in preparing the plans and specifications for the buildings. No other steps have been taken to erect the Observatory, in consequence of the fact that in pursuance of the law which limits the cost to \$400,000, there can be no expenditure of money until the complete plans and specifications are ready for the contractors, a clause providing that "no work shall be done thereon except under a contract which shall provide for the completion of the same upon plans previously adopted."

Derelicts.—During the past year many wrecks, or portions of wrecks, both floating and submerged, have been reported to the Department by the captains of incoming steamers, and requests have been received from maritime associations and others for their removal or destruction. For want of a proper vessel it has frequently been impracticable to comply with these requests, although in many instances these wrecks were very dangerous to both property and life, being off our largest ports, or in the direct route taken by the transatlantic or coasting steamers filled with valuable cargoes and carrying thousands of passengers.

It is believed by many that a floating and abandoned wreck was the cause of the loss of the *Oregon* in 1886; and such may have been the case.

A small vessel could be employed on this service with but little cost and without an additional appropriation, since no special contrivances are necessary for the complete destruction of the derelicts. I would suggest that such a vessel stationed at New York (or Norfolk in winter) would have sufficient work to keep her employed throughout the year in destroying the numerous wrecks abandoned off our Atlantic and Gulf coasts, or brought there by ocean currents, and in thus removing serious obstacles to safe navigation would be of great service to the commerce of the country.

Naval Reserve.—I have the honor to bring to your notice for consideration the somewhat extended movement among officers of the merchant marine (many of whom served in the Navy during the civil war), among yachtsmen, and among others connected with the sea-faring interests, having for its object the formation of a second reserve for the Navy, composed of officers and men willing to subject themselves to annual specified drills and temporary service in a sea-going or coast-defense vessel, with or without compensation for the period actually under instruction or service.

The first and most efficient reserve would come properly from officers and men who have served some years in the regular service, and after having been thoroughly trained, have resigned or left the Navy to accept positions in civil life; but who would be the first to offer their services in case of need. But the number of men from whom this reserve would be drawn is not large and could furnish but a very small proportion of the officers and men who will actually be required for active service at a date more or less remote, for, unfortunately, history teaches that no nation yet has been exempt from wars for any lengthy period.

For a second reserve, however, it is most probable that a large and efficient auxiliary force could be obtained from the merchant marine, from the coasting trade of both sea and lake coasts, from the fishermen, from the Light-House and Life-Saving Services, and from yachtsmen. From a preliminary inquiry already made by direction of the Department, it is believed that a project having for its end the formation and classification of a naval reserve would be favorably received by that large body of Americans who are more or less acquainted with sea-faring life, either from necessity or choice, and who are second to none in patriotic desire for the success of our Navy. This proposed formation of an efficient reserve to supply the needs of the naval service in time of war, is more urgently pressed upon your attention at this time, because the disposition of the classes referred to is now manifestly in its favor, and because the tendency of the governmental administration of

other maritime countries is distinctly in the direction of placing the Navy in charge of all coast and harbor defenses.

Very respectfully, your obedient servant,

J. G. WALKER,
Chief of Bureau.

The SECRETARY OF THE NAVY.

REPORT OF THE CHIEF OF THE BUREAU OF ORDNANCE.

BUREAU OF ORDNANCE, NAVY DEPARTMENT,
Washington City, October 17, 1887.

SIR: I have the honor to submit the annual report of this Bureau, and also to transmit estimates for the fiscal year ending June 30, 1889:

(1) Fuel, tools, material, and labor; prizes for enlisted men; batteries of the new types for four ships now in service; towards the general armament of the Navy with modern secondary batteries and small-arms; proof of naval armaments, and for modern guns and ammunition for instructing the cadets of the Naval Academy and the apprentices of the training squadron	\$988,250
(2) General repairs to ordnance buildings, magazines, and appendages	15,000
(3) Freight and miscellaneous expenses	5,000
(4) Civil establishment at navy-yards	24,525
(5) General expenses of the torpedo station; new landing stage; completing repairs to sea-wall; quarters for surgeon; two steam launches for instruction and experiment; and for correcting the sanitary condition of the cottages used as quarters at the station	89,500
(6) Towards the armament of vessels authorized	2,000,000
	<u>3,122,275</u>

CANNON.

The cannon that were originally commenced for the *Chicago*, *Boston*, *Atlanta*, and *Dolphin* have been nearly all finished, there remaining incompleated but one in the hands of the navy-yard, Washington, three at the South Boston Iron Works, and two at the West Point Foundry. These will all be completed in a few months.

For the armament of the ships since authorized to be built contracts have been made by the Department for gun-forgings as follows:

Caliber of gun.	Number of sets of forgings.	By whom to be furnished.
6-inch	32	Midvale Steel Company.
6-inch	46	Bethlehem Iron Company
8-inch	4	Do.
10-inch	24	Do.
12-inch	2	Do.

The 6-inch forgings under the Midvale contracts are beginning to come in, and will be taken in hand in the finishing shops of the Washington navy-yard at once. The whole number to be delivered under the contract with this firm must come in by February, 1889.

The plant of the Bethlehem Iron Company should be prepared to make the first deliveries of forgings by August 1, 1888, according to the terms of the contract, and when this company gets to work it is

thought that the supply of forgings both for large and small calibers will be ample.

In addition to the usual proof of the guns thus far finished, the "statutory test" of the 6-inch and 8-inch calibers has taken place. This consisted in a series of 10 rounds for each caliber, delivered as rapidly as possible, using the highest service charges.

The guns, their carriages and equipments, sustained this test without the least difficulty, and in the most successful manner. It took place in the presence of a board ordered by the Department for the purpose at the Naval Ordnance Proving Ground.

The guns of the *Atlanta* and *Boston* have been, besides, fired a large number of times in ranging and in practical tests, etc. No defects have been developed, and all have stood the work most satisfactorily.

Since last report the two 8-inch guns of the *Boston* have been finished and proved. They are hooped to the muzzle, and are fine specimens of work. The 8-inch guns of the *Chicago* are being machined by the South Boston Iron Works and by the West Point Foundry Association (two at each place). These firms have not been very prompt in executing the work, but it now approaches completion at West Point Foundry and is making progress at the South Boston Iron Works.

Of the two 10-inch guns that have been for some time in course of manufacture, one is completed and is at the proving ground being mounted for proof. The other is nearly finished.

A third 10-inch gun is commenced at the Washington navy-yard, and will be pushed to completion as fast as practicable. It is made from certain 10½-inch forgings that were obtained some time since in England, when it was intended to arm the monitor *Puritan* with guns of that caliber; but this intention being afterwards abandoned by the Department, the forgings in question became available for conversion into a 10-inch gun.

POWDER.

The specifications for American brown powder for 6-inch guns having been settled (as mentioned in the report of last year), the Messrs. DuPont were asked to undertake the development of a powder suitable for use in the chamber of the 8-inch gun, which was intended to burn about 125 pounds at a density of .95 behind a 250-pound projectile. This work has been considerably delayed by the manufacturers, who furnished several samples which, though they came near to the specifications, did not come up to them; but they have just submitted a sample which performs satisfactorily, and a sufficient quantity for the 8-inch guns of the *Boston* and *Chicago* is ordered. The manufacture of these slow-burning powders for high-power guns, particularly of the larger calibers, is difficult and subject to unavoidable delays, due to the difficulty of dealing with violent forces set at work, and of properly regulating and controlling them; but the Messrs. DuPont have been very successful with the new powders as a general rule, and we have no reason to anticipate any really serious trouble in obtaining powder of proper quality for the larger guns. We have a supply for trial in the 10-inch gun, and it will be proved as soon as that gun is mounted.

A suitable powder for the 5-inch guns has also been developed this year.

In the work with American brown powder at the proving ground for the past year no deterioration of the powder has been noticed, and it is hoped from this that it may prove to have good keeping qualities,



though a greater length of time and service at sea is necessary in order to settle this point.

The best results we have obtained thus far with 8-inch and 5-inch American brown powder are as follows :

Gun.	Powder.	Charge.	Projectile.	Muzzle velocity.	Pressure per square inch.
8-inch B. L. R. (30 cal.)....	American brown (DuPont & Co.).	<i>Pounds.</i> 113	<i>Pounds.</i> 250	<i>Feet-seconds.</i> 2,008	<i>Tons.</i> 15.5
5-inch B. L. R. (30 cal.)....	.....do.....	80½	60	2,011	14.2

German brown powder in the 8-inch B. L. R. gave the following: Charge 123 pounds, projectile 250 pounds, muzzle velocity 2,013 fs., pressure 15.5 tons per square inch.

PROJECTILES.

The manufacture of cast-iron projectiles for the new guns still goes on at the Washington navy-yard, but the Bureau regrets to state that its efforts to procure cast-steel projectiles of the proper quality has met with little or no success. The companies that have furnished them have been uniformly unsuccessful in their attempts to cast the projectiles sound. There is no difficulty in getting the necessary strength, and the extensibility required is not great; but nearly all the castings fail on the water test, being more or less porous. One or two of the firms are still trying to turn out sound shells, and it is to be hoped that they will succeed, as we must depend upon steel for war projectiles.

The Bureau has purchased a few armor-piercing shells from the St. Chamond company in France. These are of 6-inch, 8-inch, and 10-inch caliber, and are intended for use against sample armor plates, etc. It is greatly desired, however, to encourage the production of armor-piercing projectiles in the United States. The Chrome Steel Company, of Brooklyn, N. Y., has made for the Bureau a number of very good 6-inch armor-piercing-shell forgings, but those attempted for the 8-inch caliber were not so good. It is hoped that other attempts will be more successful.

Chrome steel seems to be best adapted to the manufacture of armor-piercing projectiles, and the Bureau has made many most excellent shells for the Hotchkiss guns from this metal. The Simonds Rolling Machine Company, of Fitchburgh, Mass., makes forged steel Hotchkiss projectiles on their patent, rolled to size, and requiring only to be bored and being slightly finished on the point. They use either carbon or chrome steel.

CARRIAGES.

The 6-inch and 8-inch carriages of the *Atlanta* have been placed on board that ship and have worked in a perfectly satisfactory manner.

The deck circles for these carriages were made of bronze and proved not to be sufficiently strong, nor strongly enough fastened down to the deck of the ship to properly sustain the jump and shock of recoil of such powerful guns as were mounted upon them; they will, therefore, be replaced by steel circles, which are now being prepared. It is, however, proper to remark that the bronze circles when used on the solid deck at the proving ground supported the shock of recoil of the same guns per-

fectly well. The difference in behavior in the two cases is thought to be largely due to the spring of the decks and sides of the ship on receiving the shock of recoil.

Work on the 8-inch central pivot carriages of the *Chicago* has made satisfactory progress, and the steel circles for them have been furnished and have endured successfully a severe ballistic test, showing that the steel promises good ability to hold together under the shock of impact of Hotchkiss projectiles. This is a very important point gained, and will enable the Bureau to use cast-steel of the same quality for some of the principal parts of the carriages now about to be built for the new ships. Photographs of the pieces tested will be found in the appendix.

The type of 6-inch central pivot carriages for use in the ships now building is shown in the appendix, and it will be observed that all the bottom and breast transoms are of cast-steel, as also the brackets.

Some five years ago the Bureau made cast-steel carriages for the ships then building, but it was obliged to abandon their further manufacture at that time, owing to the inability of the steel makers to get ductility enough into the metal to enable it to support a proper ballistic test. This difficulty seems now, however, to have been largely obviated, and cast-steel will be used again, as above described.

The hydraulic carriage and loading apparatus for 10-inch guns, referred to in the last report of the Bureau, is nearly finished, and the most important parts of it have been shipped to the proving ground at Annapolis for use in the approaching trial of the 10-inch gun. Such parts of it as have thus far been tried with hydraulic pressure have performed satisfactorily. Three other carriages and loading apparatus on the same design are being brought forward in the shops of the Washington navy-yard. All four are intended for the *Miantonomoh*. They were figured in the appendix to the report of last year.

The work on carriages is largely due to Lieuts. Charles A. Bradbury and N. E. Mason, U. S. Navy, whose assistance is highly appreciated by the Bureau.

MACHINE GUNS AND CANNON.

Last year through the efforts of the Bureau, the Winchester Repeating Arms Company and the Union Metallic Cartridge Company had both been induced to produce metallic cartridge cases for 37-millimeter Hotchkiss guns, and the former firm also made 3-pounder and 6-pounder cartridge cases. As projectiles and powder were both easily manufactured, Hotchkiss ammunition of the above calibers could thus be produced in this country.

A few months after this result was obtained, the Hotchkiss Ordnance Company, of Paris, France, sent an agent to the United States for the purpose of endeavoring to establish a factory for the production of their guns and ammunition. This opportunity was improved by the Department, and an arrangement was made with the company for furnishing 90 Hotchkiss guns of the various calibers, from 57 to 37 millimeters, both inclusive, together with a good supply of ammunition, and with the proviso that all the work should be done in the United States. This judicious action will result in the permanent establishment of a most useful branch of manufacture in our country. The specifications for the guns and ammunition are about finished; the drawings have been prepared by the company, and the production of their gun steel is being commenced by the Midvale Steel Works, at Philadelphia, Pa.

The 9-pounder and 33- and 40-pounders on the rapid-fire principle, are now being developed abroad.



With regard to musket caliber machine guns, there have been no new developments or progress lately.

FUSES.

Several officers of the Navy have proposed alterations in the service percussion fuses, and new time and combination fuses have also been presented, and some of the devices possess merit.

SMALL-ARMS.

The Bureau has been for some time aware that a new revolver would soon be necessary for the service, the stock now on hand, which has come down from the war, being old, insufficient, and behind the present point of development. Accordingly the Colt's Patent Fire-Arms Manufacturing Company have been asked to design a pistol embodying the best points of their standard make, together with certain other features laid down by the Bureau. A sample pistol was made accordingly, and is now under examination.

It is apparent that a reduction in the caliber of small-arms is impending, and it is not the policy of the Bureau to purchase any greater number of muskets of .45 caliber than are necessary for current use. All the principal military powers are now at work upon rifles of .30 caliber, more or less, and it is thought that this country will soon be obliged to follow their example.

ARMAMENT OF THE NEW VESSELS.

Owing to lack of funds it has been impossible for the Bureau to advance the armament of the *Chicago* and *Boston* as fast as desirable. The appropriation "Steel cruisers" under which this work was heretofore performed, has long been entirely exhausted, and what was possible has been done under the appropriation "Ordnance." This appropriation is, however, at all times, so slender as to be of but little use for the purpose of fitting such ships as the ones in question. Additional money for the completion of the armament of these vessels was asked for at the last session of Congress, but failed to pass; it is urgently required, and should be again asked for as soon as Congress assembles.

The guns of the *Boston* are all finished, as also the 5-inch guns of the *Chicago*. The 6-inch guns of the *Chicago* are very nearly completed, but the 8 inch guns will not be finished for some three or four months, and her 8-inch carriages and most of her other equipments cannot be finished unless more money is appropriated.

ARMAMENT OF THE SHIPS NOW BUILDING, OF THE PROJECTED SHIPS, AND OF THE MONITORS.

The contracts made with the Midvale Steel Company and the Bethlehem Iron Company (referred to on page 1 of this report) will furnish forgings sufficient for manufacturing the guns of all the vessels thus far authorized, except the harbor-defense vessels mentioned in the act of March 3, 1887, sec. 3.

The designs of the latter ships are not yet fully developed, so it has not been possible to fix their armament.

Work on the carriages for two of the gun-boats has been commenced at the Washington navy-yard, and others will be taken in hand as

soon as occasion requires. They can easily be prepared by the time the guns are ready.

The estimates submitted under increase of the Navy for the fiscal year ending June 30, 1889, are intended to cover the expense of arming the following vessels: *Charleston*, *Baltimore*, *Miantonomoh*, four gun-boats, dynamite cruiser, torpedo-boat *Newark*, Cruiser No. 4, Cruiser No. 5, and three-fourths of the armament of the four monitors now building. It is thought that all these vessels except the monitors will be so far advanced by the above-mentioned time as to require for their use all the money that is to be allowed ordnance on their account. It is considered that the monitors will be about half finished at the same time, and that three-fourths of their ordnance allowance should be available. The armored cruiser and armored battle-ship are not estimated for this year, but should be next year.

THE NEW GUN FACTORY.

Intimately connected with the question of armament of the new ships is that of the construction of the new gun factory in the navy-yard, Washington. Several plans were entertained and carefully discussed for the arrangement of the buildings of the factory, and the Department finally decided to utilize the large building that had formerly been a forge and anchor shop, and to equip it for the manufacture of 6-inch and 8-inch guns, while immediately adjoining its north end a new and large building should be erected for finishing guns of the largest size.

The floor of the forge and anchor shop was to be lowered, the roof raised 6 feet, and a 40-ton traveling crane introduced, running the whole length of the shop.

In the large building a 110-ton traveling crane was to be introduced, and a shrinking pit for all classes of guns was to be located at the south end. A large shop immediately adjoining, to the west, was to be fitted up as a carriage and projectile shop and to be equipped with a 25-ton traveling crane.

The other buildings on the west side of the yard were to be utilized, some as foundry and finishing shops for small parts, and others as carpenter, pattern shops, etc.

In these shops it was proposed to install the machine tools shown in the appendix.

These plans are now being carried out, and the plans and sections of the shops as proposed will be found figured in the appendix.

When the factory is completed as above it is estimated that it will be able to turn out each year the following guns (ordinary working time): Six-inch, 25; 8-inch, 4; 10-inch, 6; 12-inch, 4, or a proportionate number of any given calibers.

Work on the alterations was begun in May, 1887, and the clearing out of the forge and anchor shop and digging out the old foundations and pipe connections under the floor was found to be an exceedingly laborious task. This has, however, been completed; the foundations for the 40-ton-crane supports have been mostly laid, and the work in that building will not hereafter offer so much difficulty.

The excavation for the foundation of the large gun shop is three-fourths completed, and the material for its construction has been advertised for and some of it delivered.

The traveling cranes are advertised for, and the machine tools will be speedily. The work of construction will be pushed forward as rapidly as practicable.

The report of Civil Engineer A. G. Menocal, U. S. Navy, as to the progress made on the buildings of the factory, together with estimates of cost, will be found in the appendix, page 257.

ARMAMENT FOR CERTAIN SHIPS NOW IN SERVICE.

The third-rate modern ships last built are good sea-boats, have compound engines, and are in most important respects good examples of the best class of wooden vessels. They will last some years, and must be depended upon to do most of the work of the Navy until a sufficient number of new ships are built to replace them.

It appears desirable that they should receive a modern armament, as the impression they produce without it is but slight.

When they are finally replaced the armament will answer for newer vessels.

There are eight of the class referred to, but the Bureau has submitted estimates for four, assuming that four may become unserviceable before their armament could be prepared.

The modern armament of six of these vessels was included in the estimates made last year.

It is considered very urgent that some breech-loading guns of suitable weight and of modern construction should be built for use at the Naval Academy and on the ships of the training squadron for the exercise of the young officers and apprentices and their instruction in the use of the modern weapons that they must soon handle in service. Suitable secondary batteries and small-arms should also be supplied for this purpose, and the Bureau has inserted an item to this effect in the estimates about to be submitted to Congress.

SPECIFICATIONS, CIRCULARS, ETC.

A very considerable part of the work of the Bureau during the past year has been the preparation of information, specifications, and rules for the assistance of bidders and for the conduct of the trials and tests of the numerous ordnance articles which have lately been contracted for by the Department.

The chief of these papers are as follows: Circular and specifications concerning the requirements to be observed in designing an armored cruiser and an armored battle ship; circular of information and tests to be applied to American armor plates to be furnished under the act of Congress approved March 3, 1885; circular of information and tests concerning armor and gun steel that was prepared for the use of bidders and others under the large contract that was recently awarded to the Bethlehem Iron Company; circular concerning the requirements and trials of a proposed steel torpedo boat; instructions in relation to the trial of the torpedo boat *Stiletto*; rules of procedure laid down for the guidance of the Torpedo Board in its trials of torpedoes under the act of Congress approved August 3, 1886; specifications for buildings and traveling cranes for the gun factory, and for machine tools for the same establishment, and specifications for Hotchkiss cannon and ammunition.

All these papers required thought, care, and time for their preparation, and several of them offered unusual difficulty, on account of the novel character of the questions involved, and the want of information in this country touching the subjects of which they treated.

The Department is particularly to be congratulated upon the placing of the large and important contract for supplying the new Navy with

gun steel and armor. As the Bureau prepared the data, circular, and inspections, which contributed so much to the information of bidders concerning these new branches of manufacture, it feels a natural pleasure in the success of the whole undertaking.

In the preparation of the above mentioned papers, and in every other kind of work during the year, Lieut. A. R. Couden, U. S. Navy, has borne a very prominent part. His services have been of great value to the Bureau and to the Navy.

Lieut. Charles A. Stone has done valuable service, as also Lieut. W. W. Kimball.

THE NAVAL ORDNANCE PROVING GROUND

Has continued to do most satisfactory work, though owing to lack of funds its sphere has been very much circumscribed. It has proved the powder and guns that have been completed during the past year, ranged the guns, tested gun-carriages, steel carriage castings, thin steel plates, and small projectiles, and has done such other work in that line as from time to time became necessary. It is just about to undertake the test of the 10-inch gun and carriage.

During the year American brown powder for the 5-inch and 8-inch high power rifles has been developed, and a supply ordered for service.

An electric searcher and photographer for the bores of cannon has been devised, which promises to be very useful to the Bureau in manufacturing work. It will be found figured in the appendix.

In ranging the new 5-inch gun the work could only be carried to 3,700 yards on account of the presence of such numbers of fishing boats on the range. It is hoped, however, soon to complete the range table.

For the same reason the ranging of the new 8-inch rifle was very greatly delayed, and calculation had to be chiefly relied upon for marking the sight-bars.

A great deal of work has been done in proving and testing the ammunition of ships returned from service, and in testing military devices submitted by private inventors and manufacturers.

A set of reloading tools for Hotchkiss ammunition has been perfected at the proving ground and at the Washington navy-yard. The devices are thought to be simple and effective.

The proving ground is also preparing for the test of the Clark deflective target. The neighborhood of the town and other buildings and the proximity of two light-houses to the range make it necessary to provide very fully for the confinement of the shot within the shelter to be erected about the target. Great care will be observed in this matter, and it is thought that no danger will ensue from the trial.

Lieut. Austin M. Knight, U. S. Navy, continues in charge of the proving ground, and performs excellent work. His annual report will be found in the appendix, page 260.

At the last session of Congress the sum of \$40,000 was appropriated for the purchase of a new site for a proving ground and for the erection thereon of certain buildings. The Bureau has been endeavoring to find a suitable place for the new site, but thus far without much success. Most of the region conveniently accessible from Washington (and the proving ground should not, if practicable, be removed very far from that place) is too thickly populated, and the land is too high in price, while the neighboring waters are used for fishing and oystering to such an extent as to seriously interfere with such work as is done at a proving and ranging ground; still, it is thought a suitable site can be found, and the search will continue.

TORPEDO TRIALS.

In order to allow torpedo inventors and others to present fully their designs and devices for trial, with a view to selecting torpedoes under the act of Congress approved August 3, 1886, a Torpedo Board was organized, and all persons interested were (by advertisement in the public press) informed of the fact, and notified to put themselves in communication with the Board. This has been done to a limited extent, but no torpedo suitable for adoption has thus far been brought forward for trial.

The Bureau's instructions to the Board will be found in the appendix, page 279.

The Board is still in session.

TORPEDO BOARD.

Plans and designs of torpedoes have been submitted by the following persons and firms, viz: H. Berdan, Louis Bagger, Dana Dudley, Bradley A. Fiske, W. L. D. O'Grady, Rudolph M. Hunter, Remington & Pen-thorne for H. P. Griswold, Nicholas K. Halpine, Martin E. Hall, Alfred P. S. Miller, F. H. Paine, Benjamin C. Pole, J. N. Patrick.

Finished torpedoes have been presented by the Patrick Torpedo Company, the Howell Torpedo Company, and by Lieut. M. E. Hall, U. S. Navy.

Some preliminary trials of the Patrick torpedo have been made before the Board, and a programme of further trials has been submitted to the company, with a request that they be carried out at an early date.

Trials with the other torpedoes have not as yet been made, the owners not being fully prepared.

SPECIAL INSTRUCTION OF CONTINUOUS-SERVICE MEN.

The instruction of enlisted men at the Washington navy-yard and at the Torpedo Station has been successfully pursued during the past year, the men under instruction acquitting themselves very well.

It is impossible to overestimate the importance of this instruction, or the value to the Navy of the men who have been thus trained. They have a readiness with tools, and in handling electrical plant, artillery, torpedoes, and small-arms, which was quite unknown to the old man-of-war's-man, and captains of ships are eager to get them among the number of their crews. It is thought the number instructed should be as large as practicable, and that the scope of the instruction should be enlarged so as to take in gunnery also, including the service, pointing, and firing of great and of smaller guns.

This latter instruction can not be thoroughly and practically given without the use of a ship for gunnery practice. The same vessel could be used as an ordnance experimental ship for the trial of new forms of guns, carriages, projectiles, and other ordnance material. Such a ship has long been a desideratum of the Bureau, and it is urgently recommended that one of the smaller vessels be assigned to that service.

GENERAL INSTRUCTION AND EXERCISES OF THE CREWS OF CRUISING SHIPS.

The introduction into the service of modern guns and their elaborate ammunition and fittings directs attention to the necessity of a very

full and complete instruction in the exercise of these arms in target practice, and in the care and management of the material generally; furthermore the cost of modern ammunition prohibits its being thrown away in practice from want of sufficient preliminary instruction and careful training. A very full consideration of this matter by the Bureau has resulted in the opinion that the crews of ships should have a systematic course of instruction in the use of the armament as soon as the vessels are commissioned, and before they go abroad or on general service. Accordingly, a scheme for such instruction has been drawn up and the Bureau will submit it to the Department and recommend its adoption.

It may be remarked that the same programme of instruction and practice should be applied to the old ships, for although their ordnance fittings have not the same effectiveness and power as those of the new vessels, the instruction to the crew would have the same value.

In the estimates for the next year the Bureau has inserted an item for the purchase of prizes and medals to be awarded to the enlisted men of the Navy who acquit themselves the most creditably in target practice and ordnance exercises. Such prizes are given each year in all the principal navies, and they are a powerful incentive to effort. Certainly nothing can be more important in the Navy than excellence in marksmanship and in gunnery generally.

PHOTOGRAPHING TARGET PRACTICE.

The Bureau has devised a method of registering the results of target practice by means of instantaneous photography. The necessary apparatus will be issued to service as soon as prepared, and will, it is thought, be very convenient for use, especially at sea.

The method, in its simplest form, consists briefly in taking an instantaneous photograph of the target and of the point of fall of each shot as it strikes the water, the photograph to be taken from a boat which holds herself reasonably near the target and about 90° from the line of fire. One dimension of the target being previously fixed (usually the height of the staff) it becomes easy to measure for each round the distance of the point of fall from the target, and the camera and paper are to be so arranged that successive photographs can be taken as rapidly as desired; but one boat is required and her distance from target and ship need not be known, as each photograph carries with it its own scale.

The distance from the boat of both target and ship can be sufficiently well fixed by the view itself by means of standard scales of height previously determined for the camera.

The same general method can also be applied with the camera aloft, provided a reference scale of distances is prepared beforehand, using the instrument at the height at which it is intended to observe the gun practice.

The best application of the last arrangement would probably be when the ship is moving at speed, the distance of the target constantly changing, and the range comparatively short; in such a case the record of practice would be complete, and the plan is calculated to be useful, particularly in the case of practice with the secondary battery.

In case it is found convenient to have the recording camera quite small, an enlarging instrument might be used afterward.



SUBAQUEOUS BOATS.

Subaqueous boats for use in naval warfare have for a very long time been considered a great desideratum, and many of different types have been designed and built since the time of Bushnell (in the time of the American Revolution), who first gave impetus to this branch of attack and defense.

Development has been retarded heretofore by the want of a convenient practical motor which could give speed and certainty to the movements of the vessel, both above and below the surface of the water.

Of late years invention has made considerable progress in this direction, and methods of generating power in the subaqueous vessel (by means of steam and otherwise) without the assistance of a fire and air draft have been devised, some of which promise well.

The Department, considering that the time had arrived for endeavoring to make progress in submarine work of this kind, some time since directed the Bureau to prepare an advertisement and circular to be issued for the purpose of drawing the attention of those interested in subaqueous work to the requirements of the Department in this particular, and pointing out the general direction in which advance in invention should be made. These papers have been prepared, and the circular will be found in the appendix, page 273.

TORPEDO BOAT.

Under authority conferred by the act of Congress entitled "An act to increase the naval establishment," approved August 3, 1886, the Department advertised for proposals, July 22, 1887, for a torpedo boat for the United States Navy, to be built in accordance with a "circular showing the general requirements to be fulfilled in the design and performance of a steel twin-screw sea-going torpedo boat."

The circular was prepared by the Bureau, and approved by the Department July 22, 1887. The proposals in answer to the advertisement have not yet been opened.

STEAMER STILETTO.

Congress having made an appropriation to enable the Secretary of the Navy to purchase the steamer *Stiletto* for use as a torpedo boat for experimental purposes (act approved March 3, 1887), the Bureau, under direction of the Department, caused to be prepared a form for official trial of this boat, which will be found in the appendix, page 277.

In the preparation of specifications for the torpedo boat and the programme of trial of the *Stiletto* the Bureau had the valuable assistance of Lieut. Commander G. A. Converse, U. S. Navy.

PNEUMATIC GUN-CARRIAGE.

The Department referred to the Bureau designs for using pneumatic pressure for manoeuvring an 8-inch Navy gun-carriage. The designs were submitted by the Pneumatic Gun-Carriage and Power Company, and the Bureau is still in communication with the company concerning them.

STEEL CAST GUNS.

Under authority conferred by act of Congress, approved March 3, 1887, making an appropriation "for the purchase and completion of

three steel cast rough bored and turned, 6-inch, high power rifle cannon, of domestic manufacture, one of which shall be of Bessemer steel, one of open-hearth steel, and one of crucible steel," the Bureau, under direction of the Department, prepared specifications and proposals for these guns. In answer to the advertisement, dated June 23, 1887, two bids were received, one for the rough bored and turned casting of Bessemer steel and the other for the rough bored and turned casting of open-hearth steel. These bids have not yet been acted upon.

TORPEDO STATION.

The Torpedo Station has continued under the very efficient charge of Commander C. F. Goodrich, U. S. Navy, and all its affairs have been carried on by him to the entire satisfaction of the Bureau and in furtherance of its orders and views.

The gun-cotton factory has not been in operation much lately, a supply of this explosive sufficient for the immediate needs of the Navy having been accumulated. It is thought that a cheaper grade of acid and cotton than heretofore can hereafter be used in the production of this explosive.

The transportation companies of the country show great unwillingness to transport gun-cotton, thinking it dangerous, whereas it is (as prepared by the Navy Department) absolutely harmless. The Bureau is in correspondence with the board of underwriters of New York on this subject, and it is hoped that some change in the transportation rules in this regard may be the result.

The present factory at the Torpedo Station is not adapted to the safe manufacture of large quantities of gun-cotton, as it was erected in a tentative and experimental way. A larger factory (with the different processes of manufacture separated in different buildings) should be erected at some point on the Atlantic coast, and one of the same kind on the Pacific coast. Gun-cotton is the safest high explosive for military use yet introduced, and is employed for such purposes by all the principal powers of Europe. Its importance to this country in time of war would be very great. The expense of these factories would not be large.

During the year a naval defensive mine (two sizes) has been designed. It will be found figured in the appendix. It is hoped that this mine will prove useful in the defense of fleets and ships at anchor, and it will be introduced as soon as manufactured, and as soon as funds will allow.

It has for some time been apparent that all the dynamos on board ships should be of the compound type, and of the same electric motive force. The determination of the proper form has long engaged the attention of the torpedo station, and will be made the subject of future efforts until a proper type has been settled upon.

An installation for the electric lighting of the Torpedo Station has now been erected, and works very satisfactorily. It has proved to be of great use in the instruction of officers and men of the Navy, in care, management, and repair of electric lighting circuits, and it will be still more useful in the future. For purposes of instruction part of it has been put up in the same way as is practiced on shipboard.

Researches ordered last year by the Bureau as to a proper motor for manoeuvring guns by electrical power have been pushed forward at the station as fast as circumstances would permit. The question offers several points of difficulty, but it is hoped that they will be speedily overcome.



Several very important questions on the efficacy of the torpedo service have been decided this year at the station. They are mentioned in the report of Commander Goodrich. (See appendix.)

Two steam launches are very desirable for use at the station in the exercise of officers and men in torpedo service. The item has been inserted in the estimates.

The course of instruction for officers and men at the station has been made more practical than ever. Torpedoes and their management have been given the first place and the most time (as their relative importance demands). Questions in the tactics of the torpedo were given out to each member of the class at the beginning of the course, and also at the examination, and their solution furnished a most excellent mental exercise for the officers engaged. It must be remembered, however, that the course of instruction (for all) at the station extends only over three months, and though very much is done in that time, it is virtually impossible to cover all the ground in an entirely satisfactory manner. It is believed, however, that the course is about as comprehensive and suitable as could be devised, with the time at our disposal.

The usual class of enlisted men have received a valuable training in practical torpedo and electrical work, as elsewhere stated.

The number of officers at the Torpedo Station is inadequate to the very important work that they have to perform, and it is very desirable that at least three more be furnished at once. The annual report of Commander Goodrich will be found on page 261 of the appendix. It is excellent in all respects, and will well reward perusal.

All the officers of the station have performed their duties to the entire satisfaction of the Bureau, and the classes under instruction have been attentive and industrious.

The report of the Board ordered to witness the examination of the class of officers at the station will be found in the appendix, page 272. It is an interesting document, and the Board seem to have been highly pleased with what they saw.

The clerical force of the Bureau has performed its duties with intelligence and zeal; but the present extensive elaboration of ordnance material, the largely-increased appropriations for the armament of new ships, and the multifarious details in connection therewith, render it physically impossible for the small number of clerks and one draughtsman now allowed to properly keep up with all the work of the Bureau, and the increase of two first-class clerks, one copyist, and one assistant draughtsman, asked for in the estimates, is urgently recommended.

* * * * *

The usual statement of cost or estimated value of stores on hand, received and expended during the year ending June 30, 1887, is omitted, as the accounts thereof were transferred to the general store-keepers January 1, 1887.

I am, sir, your obedient servant,

MONTGOMERY SICARD,
Chief of Bureau.

Hon. W. C. WHITNEY,
Secretary of the Navy.

REPORT OF THE CHIEF OF THE BUREAU OF CONSTRUCTION AND REPAIR.

NAVY DEPARTMENT,
BUREAU OF CONSTRUCTION AND REPAIR,
October 25, 1887.

SIR: In obedience to the Department's instructions I have the honor to submit my annual report for the fiscal year ending June 30, 1887, showing the work performed and the amount expended, together with estimates of the amounts required for the purpose of the Bureau for the fiscal year ending June 30, 1889.

The estimates for the expenses of this Bureau, as given in the statement marked A, are in accordance with existing laws.

In view of the additional duty this Bureau is called upon to perform in the designing and building of new vessels for the Navy, and as this duty will probably increase in the future, it seems for the best interest of the Government that an assistant chief of this Bureau should be authorized by law, who will be empowered to act in the absence of the Chief of the Bureau, and otherwise assist in the numerous duties devolving upon him.

I have, therefore, to earnestly recommend that an assistant chief of Bureau of Construction and Repair be authorized, to be selected from the Corps of Naval Constructors not below the rank of commander, at an extra compensation of \$800 per annum in excess of his regular pay.

An estimate is submitted for a chief draughtsman of this Bureau, this rating having been for several years allowed in the Bureau of Steam Engineering.

Mr. William T. Powell, the present head draughtsman of this Bureau, is in every way qualified for this position, not only from his ability to make the calculations and carry out the practical work required in one holding so responsible a position, but also that, from his long experience in the designing of men-of-war, his opinion is of the greatest value in all that pertains to their fitting and equipment. The establishment of the rating of chief draughtsman and the appointment of Mr. Powell to that position would be an act of justice to one whose long, faithful, and efficient services at a small rate of remuneration entitle him to a substantial advancement.

The estimate in statement marked C is for the pay of clerks and writers at the several navy-yards whose services are indispensable for the proper and systematic prosecution of the work which is required to be done at the yards by the Bureau.

The estimate marked B is for the general repair of vessels at navy-yards and on foreign stations, purchase of stores, material, machinery, rights of patent articles, and tools of all kinds, preservation of materials and stores, and for the general care and protection of the Navy in the line of construction and repair; and the estimate marked D, for the hulls and outfits of new vessels, and the improvement of the plants at the navy-yards.

I renew my recommendation of last year that two composite, single-screw bark-rigged vessels of from 800 to 1,000 tons each be built to replace the *Saratoga*, *Portsmouth*, and *Jamestown*, wooden sailing ships of war, used as training ships, that cannot possibly be kept in service much longer.

The Bureau recommends the immediate construction of experimental works to cost \$60,000, for use in the determination of the resistance and other qualities of ships by means of models.

tanks as are recommended now form an invaluable and important part of the ship-designing branch of foreign naval establishments and the Bureau is convinced of their permanent value in designing high-speed vessels and in analyzing the results of ships' trials. The system is in theory comparatively simple, being that of towing a model of 10 feet length in a covered tank about 300 feet long, measuring the resistance at different speeds. The models being of paraffine and shaped by machinery are very cheap, but the metrical apparatus is costly, being of exceeding delicacy and requires automatic.

The English Admiralty have had such experimental works in operation since 1874, and the comparatively few publications of the investigations made by the eminent Messrs. Froude are of inestimable value to naval architects.

The system is of such economical value that Messrs. Wm. Denny & Co., ship-builders of Dumbarton, Scotland, have established similar works for their sole use.

The USS *Albatross*, one of the vessels of the Navy that is likely to be condemned, because the cost of her repairs exceeds the 20 per cent. limit, is the sloop-of-war, now at the navy-yard, Mare Island. This vessel was built at the navy-yard, Boston. She is a screw steamer of about 1,000 tons displacement, 225 feet long, 44 feet wide, and draws 18 feet of water. I have lately made a personal examination of this vessel and find that her live-oak frames above and below water are in good condition. I am of the opinion that she can be repaired within the amount, called for by the board of survey, and request that special authority for her repair be asked.

It would then, apart from the claim she has upon the reverence of the American people as Farragut's flag-ship, be valuable for service as a target for several years, and ultimately should be preserved as a monument to those whose blood was shed upon her decks, and as a relic for the future, that wooden and old-fashioned though she may be, she came out victorious in battles with both iron-clads and

ded hereto, marked E, is a list of vessels which have been received at the different navy-yards during the fiscal year 1886-'87; also a statement, marked F, of expenditures under the different appropriations during the year.

ded hereto, marked G, is a list of the contracts made by the Bureau during the past fiscal year for materials and supplies for the navy-yards.

The rapidity of the transition from the monitor to coast and harbor defense leads me to draw our attention to the single-turreted monitors in the possession of the United States. They are now a considerable expense to the Government, as they must be taken care of, and not being in proper repair are of no use to the country. If these vessels are to be kept on hand, they should be placed in perfect repair and be fitted with the latest armament.

list, they should be placed in perfect repair and be fitted with the latest armament. Within six months these vessels could be put in the same state of efficiency as they were at the time of their construction, at an expenditure of about

could give thirteen coast-defense vessels actually available, with 15-inch smooth-bore guns. These guns could be replaced as far as possible by rifles. By no other means could the same amount of money be spent to give the country such a valuable return. ded hereto, marked H, is a list of the vessels of the U. S.

Navy, divided into groups under the heads of "Armored vessels," "Steel and iron unarmored vessels," "Wooden steam vessels," "Sailing vessels," and "Tugs."

The fact that the Navy is about to be increased by a number of valuable and efficient steel and iron vessels, which are new to the service and the country generally, has led me to prepare descriptions and drawings of all new vessels built, building, or appropriated for; information of this kind having been repeatedly called for by the Department, committees of Congress, and the public generally, and as reliable data has been wanting upon such matters, I believe this will supply a long-felt want.

All the tugs now belonging to the Navy, as will be seen from the appended table of tugs, are old, most of them being relics of the last war; they are unhandy and unsuited to the needs of our navy-yards, and require extensive repairs from year to year.

There should be built for use in towing and for other purposes at the navy-yards, at least half a dozen smaller tugs of about 200 tons displacement.

Appended hereto, marked I, is a statement of the condition of the various vessels now building for the Navy, under contract, up to October 1, 1887.

During the past year the *Tennessee* and the *Shenandoah* have been condemned as unfit for further use in the naval service.

The *Tennessee* was first called the *Madawaska*, and was designed and built at the Brooklyn navy-yard under the direction of Naval Constructor B. F. Delano, being launched in 1865. In 1869 she was timbered up to the necessary height to allow a spar-deck to be put on her. She was a first-rate wooden frigate of 4,840 tons displacement, 335 feet long between perpendiculars, 45 feet 2 inches wide, with a mean draught of 21 feet 8 inches. She was fitted with compound back-acting engines, with cylinders of 40 and 78 inches in diameter, by 40 inches stroke. These engines were capable of developing 3,200 indicated horse-power at 52 revolutions per minute, giving a speed of 13.9 knots per hour. She carried 380 tons of coal. She was ship-rigged, the area of the 10 principal sails being 22,500 square feet.

The battery consisted of 2 8-inch rifles on pivot mounts, and 2 100-pounder rifles on the broadside on the spar-deck, 1 60-pounder on the fore-castle, and 18 IX-inch smooth-bores on the gun-deck. Her officers and crew numbered 480, all told.

On account of her roomy and comfortable quarters for officers and crew and her fine qualities as a sea-boat she was a general favorite in the service. She was sold September, 1887, for \$34,525.

The *Shenandoah* was a second-rate ship of 2,100 tons displacement, designed by Naval Constructor H. Hoover at the navy-yard, Philadelphia, and launched December 8, 1862. She was 225 feet long between the perpendiculars, 38 feet 4 inches extreme beam, and 16½ feet mean draught of water. The stem was made nearly plumb by Mr. Fox, the Assistant Secretary of the Navy, who intended her to be used as a ram. Her model was above the average of vessels of her date. Her engine was of the back-acting type, with 42-inch cylinders by 30-inch stroke. Speed, 12 knots; coal capacity, 365 tons of hard coal, sufficient for seven and one-half days' steaming at full power.

Her sailing and other sea going qualities are reported as excellent. The area of her 10 principal working sails was 14,975 square feet. She was first put in commission in 1863, and carried at that time 4 9-inch broadside and 3 11-inch pivot guns. On the last cruise she carried 6



IX-inch broadside, 1 60-pounder, and 2 8-inch rifles. Her officers and crew numbered, all told, 242. She was sold at the navy-yard, Mare Island, California, August, 1887, for \$18,002.

To give effect to the clause in the act of August 3, 1836, appropriating \$150,000 for the purchase of tools for ship-building, boards were appointed to decide upon the character and location of tools in the construction department of the navy-yards at New York and Norfolk, \$75,000 being allotted to each yard. These tools are now under advertisement, and we shall soon be in possession of two yards thoroughly equipped for building steel and iron vessels of war of every size and type.

The navy-yard, Mare Island, being the only one on the Pacific coast but little argument is required to demonstrate that it should be supplied with a complete outfit of ship-building tools at an early date. An equipment should be provided for the Mare Island yard similar to those being advertised for to be furnished to the navy-yards at New York and Norfolk, it being the only Government establishment where the building and repairing of vessels can properly be conducted, upon a coastline of thousands of miles in extent.

During my late visit to California, and to this yard in particular, I was exceedingly interested in its location and facilities, it being on an island at the junction of the Sacramento and Napa rivers, with the city of Vallejo opposite the yard, containing the homes of most of the working force and considered a very healthy place of residence.

The climate is such that there are but few days in the year which prevent outside work being carried on, and this fact, in spite of the high wages which are paid on the Pacific coast, causes the actual price of work done there to compare favorably with that of eastern yards.

It is perfectly practicable to conduct ship-building without the shelter of ship houses, which are expensive, both in first cost and repairs, and do not favor rapidity of construction or excellence of workmanship on account of the darkness.

The temperature in winter is never cold, nor in summer is it warm enough to make outside labor uncomfortable.

The water front of the yard has an abundant depth of water, from 24 to 26 feet, and if necessary can be increased by dredging. This yard is not exposed to attack from the sea, and the water being fresh is preservative of the hulls of steel or iron vessels from corrosion, and of wooden ones from the depredations of the teredo. The place has made wonderful progress since its commencement, and at the present time has many elegant workshops ready for the reception of modern tools. The ship-fitters' building is a very substantial structure with 18-inch brick walls, the main portion being about 200 feet in length and 76 feet wide. This shop has never been provided with tools of any kind and contains no appliances with the exception of about 700 feet of bending slabs. To properly fit out this shop for the building of modern steel ships a large number of the latest improved machines should be purchased, composed of planers, shears, punches, large and small rolls, overhead drilling machines, furnaces for plate and angle irons, large and small forges, steam-hammers, cranes of various sizes, overhead traveling cranes and surface railroads, pulleys, shafting, belting, etc., with an engine of about 250 horse-power. The boilers at the new dry-dock, being of sufficient capacity, can be utilized for that shop.

If fitted with such tools the work of building the hulls of two ships as well as their machinery, at the same time could be readily carried on. The yard is already provided with a 30-ton steam-hammer, a large

foundry with heating furnaces, and cranes by which all the heavy castings and forgings required could be produced.

Plans are now being prepared for the location of the necessary tools, so arranged that the work follows naturally from one machine to the other in its course toward the building slips, convenient to which the buildings are situated.

A large granite dry-dock 500 feet in length is nearly completed, and will give facilities to Mare Island which no other navy-yard in the country at the present time possesses.

In view of the above facts, I have most urgently to recommend that the sum of \$175,000 be appropriated for the purchase of the latest designed ship-building tools for improving the plant at this yard.

The outlook for the Navy in the near future is a very hopeful one, and with the completion of the vessels now projected, the Navy will consist of a number of modern vessels admirably adapted to the varied needs of the service.

The character of the work being done on the vessels now building, and those lately completed, shows that our ship-builders are able to turn out vessels of war second to none in the world.

The establishment of the gun factory at Washington, and introduction by the Bethlehem Iron Works of a plant to furnish heavy armor and gun forgings, makes the United States absolutely independent of other countries in the construction and armament of her ships of war, and if the work of rebuilding the Navy is only kept up as it is now going, we shall soon have a Navy that will be a credit as well as a protection to our country and our country's interests.

I am, sir, very respectfully, your obedient servant,

HON. W. C. WHITNEY,
Secretary of the Navy.

THEODORE D. WILSON,
Chief Constructor, U. S. Navy.

REPORT OF THE CHIEF OF THE BUREAU OF STEAM ENGINEERING.

NAVY DEPARTMENT,
BUREAU OF STEAM ENGINEERING,
Washington, November 2, 1887.

SIR: I have the honor to submit to the Department the annual report of this Bureau, together with the estimates for the fiscal year ending June 30, 1889.

APPROPRIATION STEAM MACHINERY, 1887.

Amount appropriated for fiscal year ending June 30, 1887, act approved July 26, 1886.....	\$763,000.00
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EXPENDED TO NOVEMBER 1, 1887.

For labor in navy-yards and stations in repair of steam machinery, boilers, etc., of naval vessels; fitting for sea service; and preservation of tools, handling and preservation of materials, stores, etc.....	\$520,640.43
For purchase of materials, stores, machine tools, freights, and incidental expenses.....	196,281.06
For payments on foreign stations, for repairs, materials, freights, and incidental expenses.....	31,469.85
Total.....	749,091.94
Less repayments by transfers in the adjustments of appropriations.....	13,317.88
Total expenditure.....	735,774.06
Balance on hand.....	27,225.94

REPORT OF THE SECRETARY OF THE NAVY.

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OBLIGATIONS OF THE BUREAU TO BE PAID FROM THIS BALANCE.

Approved requisitions for materials unfilled	\$3,564.24	
Foreign bills in course of adjustment	12,789.05	
		<u>\$16,353.29</u>
Balance remaining to credit of this appropriation		<u>10,872.65</u>

APPROPRIATION FOR STEEL CRUISERS.

Total amount appropriated for machinery as per last annual report, dated November 10, 1886	\$1,051,731.57	
Amount transferred from appropriation "Steam machinery, 1886," for completion of cruiser machinery, by order of Navy Department	\$25,000.00	
Balance in hands of paymaster	10,230.25	
		<u>14,769.75</u>
Amount expended		<u>14,769.75</u>
Total		<u>1,066,501.32</u>

EXPENDED TO NOVEMBER 1, 1887.

On the *Atlanta*.

Payments made as per last annual report	\$268,514.09
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On the *Boston*.

Payments made as per last annual report	266,566.56
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On the *Chicago*.

Payments made as per last annual report	\$332,558.50	
Paid from appropriation "Steel cruisers" since last report	38,187.66	
Paid from appropriation "Steam machinery, 1886," transferred as above	14,769.75	
		<u>385,515.91</u>

On the *Dolphin*.

Payments made as per last annual report	\$141,424.93	
Paid for steel shafts	4,396.24	
		<u>145,821.17</u>
Payments for stationery for offices at Chester, Pa	82.15	
Total expended from this appropriation		<u>1,066,499.91</u>
Balance on hand		<u>1.41</u>

APPROPRIATION MACHINERY DOUBLE-TURRETED MONITORS.

Balance on hand November 10, 1886, as per last annual report	\$115,452.32	
(No payments made under this appropriation during the fiscal year.)		
The balances yet due under the contracts for the engines, etc., for these iron-clads are:		
For the <i>Terror</i> , William Cramp & Sons	\$52,178.02	
On the <i>Amphitrite</i> , Harlan & Hollingsworth Company	52,178.11	
		<u>104,356.13</u>
Balance to credit of this appropriation		<u>11,096.19</u>

The balance of \$11,096.19 will be required to pay for cost of steam trials of the vessels, and extras to contracts, when completed.

GENERAL OPERATIONS OF THE BUREAU.

During the past year plans have been prepared by the Bureau for triple-expansion machinery for cruisers Nos. 1, 4, and 5, and for two armored cruisers. One of the latter designs, of 8,500 I. H. P., is now being worked out in detail, preparatory to being built at the New York navy-yard. Plans have also been prepared adapting the machinery of No. 27 design to cruisers Nos. 4 and 5, and to conform to the law under which the latter are to be built. Similarly, the machinery of gun-boat No. 1 has been adapted to gun-boats Nos. 3 and 4. Preliminary work has been done on designs for machinery for the monitor *Monadnock*, also on designs for machinery for new tug-boats for which an appropriation is recommended. Plans have been prepared for alterations in machinery, with forced draught, for the *Hartford*, *Sicatara*, and *Kearsarge*, the two latter vessels being now under repair at Portsmouth, N. H., and the former awaiting repairs at Mare Island, Cal. In the case of the *Sicatara*, two of the eight boilers built for her have been left out and blowers added to make up the deficiency. The steam drums have also been omitted and a centrifugal separator added. The system of forced draught used will be the same as that applied last year to the *Alliance*, and which has proved very successful. The coal supply of the *Sicatara* is considerably increased, while the power will be greater than before. The old engines of the *Kearsarge* were found to be unfit for further service and have been taken out. As the hull will not last very long, it was considered inexpedient to build new engines for her, and so the engines which were some years ago taken out of the *Nantasket* have been put into her. These engines are much smaller than those taken out, but are the best that could be put in under the circumstances. The boilers, also, are not such as would be used if the condition of the hull were such as to justify the building of new and more modern machinery. Four cylindrical boilers have been used for this purpose which the Bureau has been enabled to utilize by omitting two from the *Alliance* and two from the *Sicatara*, and using forced draught.

In the *Kearsarge* mild forced draught will be used. Work has also been done on plans for new compound condensing steam launch engines with improved boilers. Machinery has been designed and built at Mare Island for a large surveying launch for the Coast Survey, for use in the waters of Alaska, which has given very good results, considering the limited amount of money which was available for the purpose. The floating derrick at the New York yard, which was unfortunately wrecked last summer, is being repaired. Some slight modifications have been made in the design in order to minimize the chance of another disaster from improper handling. Such machines should never be manipulated by people unaccustomed to their working.

The operations of the Bureau, other than those here specified, will be found under the appropriate heads.

PERSONNEL OF THE ENGINEER CORPS.

The number of engineer officers, already inadequate to the requirements of the service, is rapidly becoming still smaller, as the limit made by Congress a few years ago has not yet been reached in the process of reduction, and no appointments are made to the lower grades. The whole number of engineers in the service on the 1st of October of this year was 223. Of this number, 113 were at sea or proceeding to or returning from stations; 81 were on shore duty connected with naval affairs; 8

on duty at colleges; 4 sick and on leave of absence; and 1 under suspension, leaving only 16 waiting orders and available for a call of duty. The Bureau being already embarrassed in the assignment of officers in such a manner that the machinery of vessels in commission may be properly cared for, and at the same time the multifarious duties on shore properly attended to, it is difficult to foresee what is to be done when the personnel of the Engineer Corps becomes reduced to the legal limit of 170, and when the number of engineers required on board of each vessel in commission will be so much greater, on account of their complicated machinery, than any vessels now in service. The number of engineers detailed to duty as professors of marine engineering at colleges has had to be reduced, and such details will very soon have to be stopped altogether, unless some provision is made for stopping the decrease in the personnel of the corps. The reduction in the number of Passed Assistant Engineers makes promotion very slow for the Assistants, and has a very discouraging effect upon them. I would recommend that, if possible, the number of Passed Assistant Engineers should be increased to the former number of 100. The least that should be done, however, is the immediate stopping of the reduction and the annual appointment of a sufficient number to the lower grade to make up for natural loss. This becomes the more important when an inspection of the losses of the officers in the upper grades of the corps shows that in a few years the loss by retirement will become very great. Although it will, under existing circumstances, be several years before any appointments can be made to the corps, I would call attention to the fact that such appointments must be made from the graduates of the Naval Academy, who are not qualified by the present course of instruction for performing the duties of engineers. I can not deplore too strongly the abolition of the former course of instruction for cadet engineers. The inadequacy of the present academic course to the proper instruction of officers for the various corps has been clearly perceived by the present Superintendent of the Naval Academy, who last year recommended that the cadets should be divided at the end of the third year, and thereafter study only the profession of the corps for which they may be selected. I would go still further than this, as I consider one year's technical education too little for engineer students, and would recommend that the graduation take place at the end of the second instead of the third year. At the end of the second year, all the students not required to make up for loss in the various corps, making due allowance for possible loss during the remainder of the academic course, might be discharged from the service, making room for a new lot. In this way, the present number of students would be available from which to select cadets to fill vacancies, thus giving better officers to the service while the instruction during the last two years could be more rough and in every way more satisfactory.

I would call attention to the anomalous position held by those officers who are now borne on the Navy Register as Cadet Engineers. They were dropped from the service by a misinterpretation, on the part of the Navy Department, of a part of the naval appropriation bill approved August 5, 1882. These gentlemen have, at three separate times, brought before the Court of Claims, the decision of the court in each case going to the effect that their discharge from the service was illegal. The two decisions of the Court of Claims were confirmed by the United States Supreme Court. Each of these decisions was made by the unanimous voice of the respective court. Upon the base of these decisions

and a subsequent opinion of the honorable Attorney-General, these gentlemen have had their names restored to the Navy Register, but they still hold the rank of Cadet Engineer, although others of the same classes who were not discharged hold the rank of Assistant Engineer. A joint resolution was introduced in the last Congress to remedy this, and received a unanimously favorable report from the Naval Committees of both the Senate and House of Representatives. I would recommend that the Department should invoke legislation by the approaching Congress to restore these gentlemen to their legal rights.

I would also call attention to the injustice done to all engineer graduates of the Naval Academy in the assignation to them of relative rank. Engineer students formerly entered the Academy upon a more advanced examination than was required for students of the line, and were graduated at a corresponding advanced date. Under existing law, however, they do not rank with the class of Line Officers with whom they were graduated, but *after* the class with which they entered the Academy, and which was subsequently graduated. The reason for ranking after this class is that the entrance examination for Cadet Midshipmen took place each year a short time before the examination for Cadet Engineers, and the appointment of the cadets of the two corps thus differed by a few days. This, however, was enough to make the first man in the engineer class rank after the last man of the class of Cadet Midshipmen which left the Academy two years after the former. Both the Navy Department and Congress have been from time to time appealed to to correct this injustice by making all graduates of the Naval Academy rank with each other according to relative merit at graduation, but none of these efforts have thus far proven successful. These officers are put to great inconvenience by being thus left behind other officers of the service with whom they first entered upon the regular duties of the Navy as commissioned officers. I would recommend that in their case also the Department should invoke the assistance of Congress.

As the duties of the Engineer-in-Chief frequently call him away from Washington, leaving behind him a large amount of technical work, it is in my opinion, desirable that he should be provided with an engineer assistant, who would in his absence become responsible for the work of the Bureau. The necessity for such an assistant has already been recognized in the case of the Bureau of Medicine and Surgery, the chief of which is allowed by law an assistant selected from the Medical Corps of the Navy. I would earnestly recommend that steps be taken to secure, in like manner, an assistant to the Chief of the Bureau of Steam Engineering.

I would call attention to the various ways in which commanding officers interpret the duties of engineers on board ship. Some very rightly leave the arrangement of watches and the distribution of duties to the Chief Engineer, holding the latter strictly responsible for the faithful performance of the duties of his subordinates and for the efficient working of the machinery. Many commanding officers, however, arrange these details to suit themselves, often requiring the engineers to stand regular watches in the engine-room at all times, day and night, whether there is anything to demand their attention or not.

Standing a watch, as does the officer of the deck, with duties pertaining to military routine to perform, is one thing; and standing watch as engineers are frequently required to do, over a mass of cold cast iron, is quite another. The latter is neither inspiring nor healthful to the victim. The arrangement of these details should be left to the Department, commanding officers being allowed to change them only

in case of emergency. The number of engineers sent to each ship should be arranged according to the importance and complication of the machinery, and nobody is more competent to judge of this than the Bureau of Steam Engineering. Where the number of engineers is sufficient, they should be required to stand watch, but when under steam on the main engines only. No engineer should be required to stand a watch except when there are duties to perform which demand an engineer's constant attention. The idea that an officer is not doing his full share of duty when he is not as uncomfortable as it is possible to make him is too prevalent in the service. It will be found that engineers will take more interest in their duties and perform them much more satisfactorily when they are not required to perform imaginary duties for which no necessity exists.

I can not too strongly express my satisfaction at the course pursued by the present administration in sending officers abroad for the purpose of study. In the case of engineers, these studies should not be of a theoretical nature, as these officers have already received a sufficient groundwork of that sort, but should be in the nature of practical application, as in the case of an Assistant Engineer who is at present occupied in the daily work of an eminent engineering firm on the Clyde. I consider that, to keep fully abreast of the times, at least three engineers should be kept abroad in addition to those engaged in study, one in Great Britain and two on the continent, to keep the Department posted on the most recent engineering matters. Much of the information that now comes to us, filtered through the daily and professional press and through non-professional observers, would be of real value if it could be obtained at first hand by observers capable of properly treating the subjects under consideration.

ENGINEER'S FORCE ON BOARD SHIP.

The number of men in the engineer's force on board nearly all vessels is entirely inadequate to the proper performance of the necessary work.

As an instance of the inconsistent way in which men are apportioned to the different vessels, it may be mentioned that the *Boston* and *Atlanta* have each a smaller engineer's force than the *Trenton*, which has similar machinery but a quarter less power. Moreover, the machinery of the former vessels is in several water-tight compartments, and for this reason alone needs more men than the latter, which is all in one compartment. Another case is that of the *Alliance*, which has fewer boilers than others of her class, but is able by forced draught to develop more power; nevertheless she is allowed fewer coal-heavers than her sister ships. To make matters worse, the importance of the work of these men in the engineer's department is in many cases made secondary to that of work on deck. The firemen are kept on deck by the hour and exercised in the manipulation of the spars and sails, while the work below is neglected. Not very long ago, on board a ship which is full of machinery, the chief engineer complained that he was unable to do the necessary overhauling and repairs, as he was not allowed the use of his men. The reply of the commanding officer was that the presence of the men at the drills could not be dispensed with, and that if repairs to the engines were necessary they could be done at night. The result of such action is inefficiency of the motive power and unduly rapid deterioration of the boilers and machinery. The average life of our boilers is less than it should be, and many of our engines, although originally economical, have become wasteful of fuel simply from want

of attention, while the labor which should be used on them is diverted into other channels. This must all be changed, and changed quickly, if our vessels are to be kept in effective condition. The Department enlists men for the engineer's force for the purpose of manipulating and taking care of the machinery, and they should not be employed for other purposes while this work remains undone. None of these men should be employed in any work other than that for which they were intended, without the previous statement of the engineer in charge that his department is in such a state that their services can be spared, this statement to be recorded in the steam log-book. The coal-heavers should be considered as a permanent part of the engineer's force, as was intended when the rating of Coal-Heaver was established.

As the number of engineers in the service is becoming too small to allow of a complement on board all vessels, the number of machinists should be increased. On all vessels where there are less than three assistant engineers there should be at least three machinists. The rating of Coppersmith, which was abolished several years ago, should be re-established, and one of that rate allowed to each of the vessels of recent type. When under way the coppersmith would do the work of an oiler or water-tender, so that no addition to the number of men would be required, but simply the additional pay, which should be sufficient to make the pay at least \$60 per month. The Blacksmiths, who were recently taken away from the engineer's force and put under charge of the Executive Officer, should be returned, as nine-tenths of all the blacksmith's work on board ship is in connection with the engineer's work, and the blacksmith should be available to do this work when necessary.

The recent order of the Department, transferring the custody of stores on board ship to the Paymaster, directs that the Engineer's Yeoman shall "be attached to the pay department." This is variously interpreted on board different vessels, on some his services being entirely lost to the engineer. The former duties of the engineer's yeoman were to take care of the engineer's stores and keep the accounts of the same; to have charge of tools, issue them when required for use, and take care of them when returned; and to do the writing required in keeping the steam log-book and in making out the various reports required in connection with the machinery. The engineer's stores, such as oils, tallow, packing, waste, etc., are of such a nature that they must necessarily be kept in special receptacles in or near the engine-room, and there must be at all times when work is going on some one on hand to issue them as required. I can see no reason why the yeoman, doing this work as heretofore, can not at the same time perform the other duties formerly devolving upon him, the only difference being that he is now responsible to, and keeps the stores for the paymaster instead of the engineer. This is done on board some ships with apparent satisfaction to everybody concerned, and I would recommend that the order of the Department in this regard be so far modified as to direct that in all cases the engineer's yeoman shall be under the orders of the paymaster so far as the engineer's stores are concerned, but that he shall continue to perform his other duties for the engineer as heretofore. Should it be considered inadvisable to do this, I would recommend that a tool-keeper with the same pay as the ship's writer be allowed.

It is impossible to get as good a class of machinists and other petty officers of the artificer class as is desirable. This is not so much on account of the pay—although this should be greater in some cases—as the conditions of life to which these men are subjected on board ship. Few

mechanics who can earn good wages on shore are willing to go to sea when they must swing in a hammock, eat out of a tin pan, assist in all sorts of drudgery, be "horsed" around generally, and be permitted to go ashore only at long intervals. The services of good men are necessary to the efficiency of our ships, and every effort should be made to obtain such. The petty officers of the higher grades should be kept apart from the other men as much as possible, otherwise they lose to a great extent their influence over them. I see no reason why the machinists, together with a few certain other petty officers, should not have a place on the berth-deck partitioned off for their use where they could have comparative privacy. This could be very easily done on some of the more recent vessels where the division of the vessel by numerous water-tight bulk-heads lends itself to such an arrangement. These men should also be allowed greater privileges than the minor enlisted men in the matter of "liberty" on shore. They should be furnished with lockers in which to properly keep their clothing, and with facilities for maintaining a decent mess. I am confident that attention to these matters would result in the procuring of a much better class of petty officers than can at present be obtained.

BOILER CONSTRUCTION.

An absurd practice has grown up in the navy-yards—I know not why—of always charging boiler construction to some certain ship, although she may eventually go to some other yard and take other boilers, and the boilers supposed, by navy-yard tradition, to belong to her go into some other ship. This practice would be rational in the case of a ship which required a boiler designed especially for her, as in the later ships, but in no other. A ship with boilers charged to her may be wrecked, or upon arriving home her hull may be found rotten and be condemned. Then, although her boilers will go into the next ship that comes along wanting boilers of that type, there is always somebody to raise a hue and cry about the wastefulness of naval methods. There is no more reason why a boiler, which might go into any one of a number of ships, should be said to belong to one of those ships any more than to another, any more than that one particular gun out of a hundred just like it should be kept for one particular vessel to sail into port and claim it. It has been the aim of the Bureau in past years to have the boilers and engines of each class of vessels as nearly interchangeable as possible. For instance, the *Vandalia*, *Quinnebaug*, *Scatara*, *Galena*, *Marion*, *Mohican*, *Adams*, *Alliance*, *Essex*, *Enterprise*, *Nipsic*, *Alert*, and *Ranger* all have boilers alike, there being from four to eight in each vessel.

It is impolitic to wait until a vessel arrives at a navy-yard for repairs before the construction of her new boilers is begun. The vessel, in such case, would be thrown out of use too long a time while waiting for their completion. In the merchant marine such a policy would not be thought of. A merchant steamer is never laid up but for a very short time for a change of boilers; only long enough to take the old ones out and put in the new ones, which are ready to hand. Of the class of vessels above referred to as having similar boilers, several will need new boilers in a year or two, the *Galena* and *Essex* probably being the first. Two boilers of this sort are now on hand at Norfolk and four at New York. Enough more should be built at such times as boiler-maker's work may be slack in these yards to increase the number on hand at each place to six, so as to be ready for the next ship; but, for the reasons given

above, they should not be charged to any ships until put in, but the work should be charged to the boilers themselves.

There are now lying at the Mare Island navy-yard, six boilers built for the uncompleted double-turret monitor *Monadnock*. These boilers have never been put in for the reason that no money has been available to complete the hull or to build engines for her, and it was expedient to keep the boilers on shore where they could be better preserved than in the vessel. The boilers and intended engines, at the time the vessel was designed, represented the highest skill of the marine engineer's art, but in the rapid advance of engineering science their type has become antiquated. The designed engines were of a type which could only be put into a single compartment, and all the boilers were intended to be put into one compartment. The development of the science of naval warfare, particularly that pertaining to the ram and torpedo, will not permit of such a distribution of machinery in a modern war ship; everything must be divided up as much as possible in separate water-tight compartments. It becomes advisable, therefore, when machinery for the *Monadnock* is built, to thus divide it, and also to divide the boilers into at least two groups. The boilers and machinery should also be of the most modern, and consequently economical type. The only obstruction to this is the fact that the boilers of old type are on hand; this being one of the special cases where a certain boiler will fit only a few ships. The only other vessels that these boilers would be useful to are the *Miantonomoh*, *Amphitrite*, *Terror*, and *Trenton*. The first will probably not need new boilers for several years; the second and third are not yet quite completed; but the *Trenton* will need new boilers at the end of her present cruise. I would recommend, therefore, that she end, if possible, her cruise on the Pacific coast, where she could take these boilers, thus permitting the adoption of a more modern type of both boilers and engines in the *Monadnock*. It would be even better to dispose of the present boilers by sale—as they could be utilized in any one of a number of merchant steamers—than to cripple the *Monadnock* by tying her down to a design made twelve years or more ago.

The case of the *Monadnock's* boilers is one that might be ascribed by malcontents to wasteful naval methods; but an analysis of the case will show that it is caused by the failure of former Congresses to appropriate money to complete the vessel. Had the vessel been completed at the time that was expected when she was commenced, these boilers would probably have been worn out long ago in service, and I might now be submitting an estimate for new ones instead of recommending their displacement by others of more modern design.

MISCELLANEOUS.

I would call attention to the fact that at present four different Bureaus furnish steam machinery to ships, and that three Bureaus are charged with the care of it on board ships in commission. The Bureau of Steam Engineering is at present charged only with the motive machinery, while on board modern ships are found steam capstans, windlasses, steering engines, ventilating fans, electric-light engines and dynamos, turret machinery, gun-training engines, and steam, pneumatic, and hydraulic gear for various purposes, which come under the care of other Bureaus. Many of these machines are, on board ship, placed in the care of officers who are but novices in engineering matters, and require a force to assist them which would in great part be rendered unnecessary if this machinery were under the charge of the engineers, whose force would

require but little addition to enable it to undertake the additional duties. Although in most, if not all cases, the fitting up of the auxiliary machinery of various sorts on board ship is done by the Bureau of Steam Engineering, and although the services of the engineers of the ships are brought into requisition when repairs are necessary, yet this work is done for other Bureaus which are charged with the care of these machines. I would recommend that this incongruity be summarily abolished, and that in the interest of economy, harmony, and efficiency, all machinery be placed under the charge of the engineers, who are the only officers in the service who are fitted by education, training, and experience to assume such trust.

The duties of the Fleet Engineer have been from time to time so abridged that at present, apart from the charge of the machinery of the ship on which he serves, they practically amount to nothing except a farcical "inspection," which is made at the same time the Commanding Officer of the Fleet makes his periodical "inspection." At such a time the ships are made to appear as different as possible from what they are under the ordinary conditions of service, and the crew is in holiday attire, prepared for exhibition drills on deck. Facilities should be afforded the Fleet Engineer to make a practical inspection of the machinery of each ship of the fleet at least once a year while under way; also to inspect it when the ordinary work is going on in port, so that he may become better acquainted with the condition of the machinery than he can by simply looking at it at a time when its chief merits are supposed to be judged by the brilliancy of its polish. In order that these inspections can be properly carried out, an assistant engineer should be attached to every flag-ship for staff duty. He would assist the Fleet Engineer in his inspections, where, being a much younger and more active man, his services would be of great value. He would also inspect the log-books and other periodical reports of the engineers of various ships—a duty to which the Fleet Engineer could not devote sufficient time—and thus see that the instructions of the Department are carried out.

Paragraph 14, page 118, of the Navy Regulations provides that in the case of any important accident or derangement occurring to the machinery of a steamer "A survey will be held upon it by a board composed of one line officer and at least two engineers, who will report in writing the nature and extent of the accident or derangement, the cause, the probable time of repair, and to whom, if to any one, blame is to be attributed, etc." It is seldom if ever the case that more than two engineers, the minimum allowed, are put upon such a board. We then have, in case, as often happens, of a difference of opinion between the two engineers, the anomaly of a person not educated in engineering matters having the deciding vote on a technical question. I would recommend that this regulation be so far modified as to provide that such boards should always, when possible, be composed entirely of engineers, in order that there may be a greater probability of the actual facts in such cases being represented to the Department.

Our ships, after their first trials, are seldom if ever run at full power; hence it is never certain that the machinery will be equal to such a task when required, and the engineer's force, from lack of experience, is likely to be found wanting at a critical moment. If it is necessary for the efficiency of a vessel that its crew should be frequently drilled in the manipulation of the sails, guns, and small-arms, it would be but reasonable to suppose that the firemen, and others of the engineer's force, would need some practice to enable them to become as proficient in

their duties as the standard of excellence would require. It is a comparatively easy matter to run the machinery at two-thirds power; it is the last half-knot that counts. Every ship in commission should be tried at least once every six months, and more frequently, if possible, for eight hours under full power. It would be better if a longer run could be made, but the number of men allowed will not permit of it. At full power the watches have to be doubled and the men can not stand the strain. A part of this run should be made over a measured base in order to determine the exact speed. Each ship should also, once a year, be subjected to a progressive speed trial, over a measured base if possible. The results of these trials would give to the Department a good idea of the efficiency of the machinery, and would be useful in many ways. A carefully kept record of the performance of each vessel is of the greatest use to the Department, both in proportioning the machinery of new vessels and in improving that of existing ones. Records of speed and power, in order to be comparable, should be those pertaining to performances in smooth water. But it is seldom that all the conditions at sea are favorable to a record of this kind, and consequently the best records would be those made while running in inland waters. Unfortunately, as the speed of our ships at such times is not generally noted, not being necessary for purposes of navigation, the chance of reliable data is lost. I would recommend that whenever possible the speed of vessels in rivers or other inland waters be ascertained as carefully as possible by patent log or such other means as may be practicable; also, when opportunity occurs, that the speed be measured between landmarks, provided that the amount of current can be accurately ascertained, or that the measurement of speed can be made at slackwater. In this way much valuable information could be gained without attending expense, and without interfering with the ordinary duties of vessels.

It is of the greatest importance that exhaustive experiments be made on some of the doubtful points of modern high-speed marine engineering. Among these I would mention as the more prominent: the most efficient amount of heating surface for a given power at a given rate of combustion with forced draft; the ratio of the volume of the combustion chamber to the volume of the gases passing through it in a given time; the best form and dimensions of high-speed blowing fans; the absolute and relative economy of triple and quadruple expansion engines at various pressures, with and without steam jackets, and with both dry and superheated steam; the strength of various full-sized forms in cast and forged steel, and in various high-strength alloys, under various conditions of working and cooling; the strength of large specimens of thick steel boiler plate to determine how close to finished dimensions it may be safe to shear the plates; the strength of riveted joints in very thick steel boiler plates; the potential and economical performance, and the endurance, of various recently introduced boilers of the coil, pipe, and tubulous types; the most efficient proportions of high-speed screw propellers for given powers and speed. All these questions lie, in great part, beyond the range of theory, although certain data, when obtained, can be applied by theoretical methods to cases differing considerably from those of the experiments. It is much cheaper to spend a comparatively small amount of money in making such experiments in a scientific manner than to follow blindly in the wake of what somebody else is said to have done, and to find too late that our efforts are not as successful as expected. Every step should be a step in advance. This Bureau is in constant receipt of letters from

engineers, scientists, and institutions of learning, asking to be supplied with the latest publications of the results of the Bureau's experiments. These requests result from a knowledge of what was done in former years, and show of what value such experiments were considered to be. It was by means of knowledge derived from the experiments that we were able, twenty years ago, to produce a vessel whose speed was far ahead of that of any other sea-going steamer then in existence, and whose continuous speed *at sea* has never yet been exceeded by a recorded performance of any foreign naval vessel. The results of many former experiments are among the classics of engineering literature, and are to-day considered, the world over, as the most reliable data obtainable on their respective subjects. Among these I may cite as the more prominent: the experiments of Isherwood on the expansion and superheating of steam and on the screw propeller, and of Loring and Emery on the absolute and relative economy of the simple and compound engines. The Bureau has been very fortunate within a few days in having offered to it, by J. M. Forbes, Esq., of Boston, the use of his yacht, the *Shearwater*, for the purpose of experimenting with the Belleville boiler with which it is equipped. This offer is very opportune, as, without doubt, in the near future some boiler of the type of which the Belleville is an example, must be adopted for naval use in order to meet the increasing demand for high powers with light weights; and reliable data on the performances of such boilers are scarce. But public spirited liberality, such as shown by Mr. Forbes, is too rare to be expected in all the cases upon which experiments are advisable. I would recommend that the Experimental Board be again organized, and that steps be taken to secure, if possible, an appropriation to defray the expenses of experiments and a publication of the results. Appropriations for such purposes are not without precedent. Congress has frequently sanctioned the expenditure of money for experiments of various sorts, sometimes for purposes of general experiment, and sometimes for trials of the inventions of individuals. As a case of the latter, I may mention an appropriation of \$25,000 made a few years ago for the purpose of experimenting with the defective armor invented by Chief Engineer N. B. Clark, U. S. Navy. In the present case, however, it would be difficult to specify in detail just what amount would be needed for each individual experiment, and I would therefore recommend that an appropriation of \$25,000 be asked for to be expended in such manner as the Department may direct.

As there is a constantly increasing necessity for accurate instruments for use in the engineering department on board ship, such as steam indicators, steam, vacuum, and air-pressure gauges, high and low grade thermometers, pyrometers, speed indicators, barometers, anemometers, etc., and as there is but little reliability in such instruments as at present supplied, I would recommend the establishment at the Department or at the New York navy-yard of an instrument depot under the charge of this Bureau. An engineer should be detailed for this special work, so that about the only extra expense would be the wages of a skilled instrument-maker. This expense, however, would be but slight in proportion to the importance of the results, and would be partly balanced by the saving over the present cost of purchase and repair of instruments. In this way all instruments used by the Bureau would be standardized and kept in condition for immediate issue when required, with an assurance of their reliability.

The Bureau finds itself greatly embarrassed in the care of machinery of ships in commission by the way in which its instructions are fre-

quently nullified by other authority. The issue of an order by a Bureau becomes farcical when there are no adequate means of enforcing its observance; it is much like the enactment of a law without an accompanying provision for a penalty for its infraction. Among other abuses of this kind I may mention the case of an order of the Bureau, of long standing, that boilers must not be filled with water for trimming ship; also an order limiting the minimum time in which steam should be raised. There are but few ships in commission to-day on board of which one or both of these instructions is not at some time or other deliberately disregarded and the lives of the boilers thereby shortened. I would suggest, as an aid in remedying this state of affairs, that military traditions and customs be so far set aside as to require the Chief Engineer of each ship, whenever he is ordered to disobey the instructions of the Department, to immediately make a special report of the same direct to the Bureau, at the same time giving a copy of the report to his commanding officer, so that if an emergency existed which would justify the overstepping of the limits of his instructions, he may be enabled to explain it to the Department. I would also recommend that this Bureau be allowed to communicate directly, in all technical matters, with its representatives on board ship, thus insuring a much more satisfactory knowledge of the state of affairs than is now available at the Department.

I would recommend that hereafter, when proposals are invited for building ships and machinery, the intending bidders who wish to furnish machinery of their own design, be furnished in advance with general specifications to which they must conform. This would not in the least confine them in their choice of type or dimensions, but would put all bidders on an equal footing by specifying what degree of workmanship, quality of material, and special conveniences would be required. When the only requirement is a certain maximum performance of speed or power, a great many details necessary to economy, durability, accessibility, convenience of repair, and ease of handling with a small number of men—so necessary in naval vessels—may be omitted. As each contractor is naturally anxious to make the lowest bid, he of course leaves out all that he can without endangering the success of the contract trial, thereby cutting the price down to a minimum. In such cases, it is found that there is always more or less difficulty between the Department and the contractors in finally agreeing upon what shall be included in the contract. As such agreements must be, to a great extent, matters of compromise, much is left undone which must be made good after the vessel is accepted by the Government; while, as it is often necessary to make considerable additions to the contractors' plans before they can be accepted, justice is no more done to the contractors than to the Government.

I would recommend that hereafter when vessels are lying in ordinary at the navy-yards at Portsmouth, New York, Norfolk, or Mare Island, an engineer be ordered to each yard for the special duty of taking care of their machinery. Each vessel should have from two to six enlisted firemen, according to the amount of machinery, detailed under the control of the engineer, to keep the machinery in working order, instead of laying it up as at present. It would be found that the cost of keeping the machinery in condition for use in this way would be less than overhauling and getting it ready for sea after being laid up for a time, as at present in vogue.

I would recommend that, for the six tugs which the Chief Constructor recommends to be built, engines of simple pattern but of the most re-

cent type be constructed. Such machinery will cost at least twice as much as the low class of machinery usually put into tugs. The high-priced machinery will, however, in the long run be more economical and in every way satisfactory. Each tug should be fitted with a powerful fire-pump and with a pump of large capacity for wrecking purposes.

The only armored vessels that we now possess in a state of completion are the old single-turret monitors. They are, to be sure, of antiquated type, but would have to be depended upon in case of a declaration of war before other coast-defense vessels are built. They are slow; but for a small outlay could be given fair speed by fitting the boilers with forced draft applied directly to the ash-pits, and substituting surface for jet condensers on such vessels as are fitted with the latter. These changes could be made for \$5,000 on each of the five vessels now having surface condensers, and for \$10,000 on each of the eight others; provided, however, that the work could be concentrated at one navy-yard, as the reduplication of the additional machinery would tend to economy. Two of these monitors need new boilers, which would cost \$40,000 for each vessel. If we were possessed of other vessels for coast defense, I would not recommend spending a dollar on any of these old craft; but, under the circumstances, to add to our security until better vessels can be built and equipped, I would recommend that the above-mentioned changes be made, and that a sum of \$185,000 be appropriated for this purpose.

NAVY-YARDS.

The work of the Bureau in the navy-yards during the past year has consisted principally in repairs to existing machinery of naval vessels and putting in boilers already built. The shops of the New York and Norfolk yards are now being put in readiness for building two new armored vessels, a cruiser on the Department's plans at the former place and a battle-ship on the plans of the Barrow Shipbuilding Company at the latter. The equipment of the engineering departments at the navy-yards is, with the exception of a few machines required at Norfolk, sufficient to build these or larger engines, some of the largest naval engines ever built being constructed at the yards more than twenty years ago, with the existing plant. The shop machinery is, however, the worse for wear, and is not up to modern requirements in the matters of rapidity of work and economy of production. In order to be prepared for any emergency, when machinery would have to be built rapidly in large quantities, additions of modern tools should be made. The greatest lack at the navy-yards in the way of modern machinery is in boiler-making plant, capable of dealing rapidly and efficiently with the thick steel boiler-plates made necessary by the introduction of the high steam pressures now carried. I would recommend the immediate addition to the plants at New York, Norfolk, and Mare Island of complete hydraulic boiler-making outfits capable of dealing with the heaviest plates. The larger machines at the Boston yard in the former steam-engineering shops, including some of the largest of their kind in the country, are of no use for equipment purposes, as that Bureau has no work to do of the class for which these machines were intended. I would therefore recommend that a sufficient number of men be employed under the direction of the chief engineer of that yard to keep such machinery in working order, so that if, in case of emergency, it should be found advisable to again use the yard for general purposes the machine tools could be put in use at short notice.

One of the greatest difficulties in the way of making machinery as light as desirable is the uncertainty as to the strength of the various parts. By testing small specimens of various materials we are enabled to tell approximately what will be the strength of the structure into which these materials enter, provided that all parts are equal to the sample. But there is a possibility of hidden flaws and imperfections of workmanship, as well as inequalities in the composition of the material, which must be provided for. This is done by using a "factor of safety;" in other words, by making the structure heavier than necessary. If a designer were sure that all parts of his engine would be tested by the application of a greater stress than would ever be put upon them in actual practice, he would cut down his "factor of safety" to barely enough to cover the test strain, and would consequently be able to get more powerful engines on a given weight. The necessity for thus testing, or rather proving, full-sized members is beginning to be recognized by engineers. The Union Bridge Company, for instance, has just built a testing machine capable of exerting a stress of 600 tons, and of taking in bridge members 40 feet in length. It is, however, a comparatively cheap machine, being very simple in design, and not having the extreme delicacy of the Watertown machine, but is entirely sufficient for the purpose for which it was intended. A somewhat similar machine, with the addition of mechanism for testing shafts, both by torsion and bending, would be of the greatest use where very light machinery for naval vessels is built. All parts of machinery which could be so tested would not only be proved beyond the working stress, but by measurements of change of form the probable ultimate strength would be determined, and all parts not up to the requirements would be rejected. Such a machine should be of sufficient power to not only prove the specimens, but, in the event of indication of weakness, test them to destruction to determine the cause of failure, and thus add to the stock of knowledge on such matters. The Union Bridge Company's machine, above referred to, is built with this object in view, eye-bars of about 16 square-inches in cross-section having been tested to rupture. I consider the plant of each navy-yard incomplete without a machine of this kind, and would recommend that one be immediately built for the New York yard, of a sufficient capacity to prove all piston-rods, connecting-rods, columns, and tie-rods used in engine frames, and shafting of large sizes. I have no doubt that this machine would prove so useful that we would before long have one in each yard.

I would recommend that, for the purpose of facilitating the transaction of business, this Bureau be authorized to communicate directly with its representatives at the navy-yards in regard to all details of work being carried on, and on all matters of technical information, a press copy of such communications being sent in all cases to the commandant of the navy-yard, as a matter of record, instead of the original communication going to him for the formality of his signature. The Bureau is often embarrassed by the delay thus caused, communications being seldom delayed less than one day, and often longer under the present system. There is too much of the military principle at our yards to enable them, as manufacturing concerns, to carry on their business with proper economy or dispatch.

I would call attention to the inapplicability of all our navy-yards to the proper handling of material. We have not a single yard where a vessel can be hauled into a slip in front of the shops to have her boilers and engines put in, then moved along to a convenient place to receive her

battery, and finally passed on to the fitting-out wharf, still being at all times convenient to all these places, so that the lighter work may be done without traveling long distances. At the New York yard, for instance, the absurdity exists of the steam engineering department, with the heaviest weights, except perhaps those of ordnance, to handle, being situated in the building farthest from the point where ships lie when overhauling, while the store-houses, with only packages to handle, are close aboard. Of course this state of things could only be remedied now at enormous expense, but a great deal could be done to facilitate the handling of material with the work distributed as at present. The present facilities would be found entirely inadequate in time of war, and would have to be supplemented by railway tracks and equipment for handling heavy weights.

The steam-generating plant in all our navy-yards is very defective and uneconomical. Each Bureau has its own boilers, frequently several in different places. This requires a large original outlay, a great cost of repair and renewal, a large number of men for firing the boilers, and is wasteful of fuel. I would recommend, therefore, that no further additions or renewals of the present steam-generating plant be made at any navy-yard, but that at each yard a central boiler station be begun, and the plant be added to as the old boilers wear out. The central station would be connected, with all places where steam is required for power or heating, by underground pipes. This is in accordance with the most recent practice of engineers having charge of large manufacturing establishments. Not only would the running expense be greatly reduced, but the cost of repairs would be much less than at present, the work of boiler inspection facilitated, and the danger from fire diminished. I would recommend that \$20,000 be appropriated to begin such a change at the New York yard, with like sums for the Portsmouth, Norfolk, and Mare Island yards.

A synopsis of the principal work done at the various navy-yards, together with an account of the expenditures at each yard, other than for work done on naval vessels, will be found below. A list of the additional machine tools recommended for the various yards is also given, with an estimate of cost.

* * * * *

ADDITIONAL ESTIMATES.

The amount of money required for carrying out the various recommendations included in this report is as follows, being in addition to the annual estimates herewith submitted:

For increase of navy-yard shop plant, including a testing-machine at the New York yard, as elsewhere specified in detail.....	\$222,910.00
To begin the erection of central steam-generating plant at the navy-yards at Portsmouth, New York, Norfolk, and Mare Island.....	80,000.00
For increasing the efficiency of the machinery of the present monitor fleet as a temporary expedient.....	185,000.00
For purposes of investigations and experiments, such as specified in the body of the report.....	25,000.00
Total.....	512,910.00

I have the honor to submit herewith the schedules of bids for supplies for the fiscal year ending June 30, 1887, and the estimates for appropriations for this Bureau for the fiscal year ending June 30, 1889.

Very respectfully,

HON. W. C. WHITNEY,
Secretary of the Navy.

GEO. W. MELVILLE,
Chief of Bureau.

REPORT OF THE CHIEF OF THE BUREAU OF PROVISIONS
AND CLOTHING.NAVY DEPARTMENT,
BUREAU OF PROVISIONS AND CLOTHING,
Washington, October 11, 1887.

SIR: I have the honor to submit herewith a report of the operations of this Bureau for the fiscal year ending June 30, 1887, together with tabulated statements pertaining thereto, viz:

Schedules of proposals received for furnishing supplies, statement of contracts made, and account of sales of condemned stores for same period, numbered 1 to 14 inclusive; also estimates of appropriations under cognizance of this Bureau for fiscal year ending June 30, 1889, marked A, B, C, and D.

REORGANIZATION OF THE BUREAU.

Under the operation of the order transferring the purchase, care, and issuance of stores, together with the charge of books and audit, to this Bureau, it has been organized into two divisions, viz, division of purchase and supplies, and division of accounts and audit; both under the charge of experienced pay officers of the Navy.

This duty is of an exceedingly arduous character, and requires ability of a high order to properly execute it.

I would recommend that legislative authority be given you to detail a pay officer of the Navy as Assistant Paymaster-General, with authority to act during the absence, from any cause, of the chief of Bureau.

Existing law provides that during such absence of the chief, the chief clerk, or chief of another Bureau shall act.

It is manifestly more in accordance with business principles that the acting chief of Bureau should be an officer of experience in the service, both at sea and on shore and in the Bureau itself.

The act approved 27th February, 1877, confers this authority in the Bureau of Medicine and Surgery, where it is found to operate satisfactorily.

The complex duties devolved upon the Bureau of Provisions and Clothing makes such provision of law even more necessary.

To enable the Bureau to obtain the best results these three officers should have a fixed tenure of office, and receive as compensation during such service the highest sea pay of their grades.

This additional compensation involves but a small amount of money, but such recognition would encourage officers to undertake the exhausting labor incident to the positions.

SUPPLIES.

The Bureau has continued the policy of reducing the quantity of clothing, small stores, and provisions carried in stock inaugurated during your administration.

By exacting a strict accountability for the necessity of purchases and utilizing the stores on hand, a reduction of over \$100,000 has been effected.

CONCENTRATION OF STORES.

Under your order of November 17, 1886, the work of consolidating and arranging the various naval stores and supplies belonging to the Navy Department, under the charge of one general storekeeper at each

ward and station, and on board the various ships in commission, was entrusted to this Bureau and the pay corps.

An appropriation was made by Congress of the sum of \$20,000 to be allotted to the work of arranging the various storehouses and moving the stores thereto. Work was commenced January 1st last and completed during the current fiscal year, within the limits of the aforesaid appropriation.

This consolidation has rendered available a large number of storehouses at each yard, and caused a very considerable reduction in the clerical and other force heretofore required for their care and preservation, resulting in a large saving to the Government, while enforcing a strict and rigid responsibility for them by a bonded officer.

I beg to submit an outline of the plan adopted for the practical operation of this order.

With your support and the hearty co-operation of the various Bureaus, together with such additional legislation as I have the honor to recommend, it is believed it will accomplish all that you require.

A system of transfers of property pertaining to one Bureau for the use of another has been effected, by which the accumulation of surplus property under one Bureau, while another is necessitated to purchase the same stores, will be avoided in the future, to the great benefit of the Government.

While the general charge and issuance of all stores has been intrusted to a bonded officer, care has been taken to surround the purchase and inspection of all stores with such safeguards as will, it is believed, render fraudulent practices impossible. Care has been taken that the purchasing officer shall procure such articles as may be required, if by open purchase, after public competition, while he is precluded from either receiving them or passing upon their quality.

Boards of inspection have been organized at each yard and station—one member being selected from the Bureau representatives who require the articles—invested with authority to inspect and examine all the stores and supplies purchased for the use of the Navy, and to see that the articles are in accordance with the specifications, while the quantities agree with the amounts charged on the public bills.

Care has been taken to leave the respective Bureaus perfectly free to use these stores without interference, the general storekeeper having no authority over them, other than to see that the requisitions calling for them are in due form, and receipts given by the proper persons.

Statutory boards have been convened at the several yards and stations to survey and appraise the large accumulation of old and unserviceable material. From their reports, inventories have been compiled, and auction sales are being held, after due advertisement, to dispose of them.

I respectfully recommend that Congress be requested to amend the act approved August 5, 1882 (Vol. 22, Stats. at Large), which directs that the sale of all condemned articles shall be at public auction, to conform with the act approved March 5, 1875, providing in case of ordnance material, that they may be sold at public sale, after due advertisement for proposals. This latter plan is found to be much more advantageous to the Government.

The removal of this accumulation of material, much of which has been in store for twenty years, will make valuable space available for other purposes. Business methods have been introduced which will result in keeping the stores and materials left on hand in such quantities only as the necessities of the service require.

A uniform system of book-keeping has been adopted, by which an account of the various stores pertaining to the different Bureaus, now concentrated in storehouses under the charge of bonded officers, can be accurately kept, and the Department maintain a system of rigid accountability for all its property.

Separate ledgers for purchased, manufactured, and condemned articles; record books for buildings, grounds, tools, machinery, plant and ships, have been prepared for the use of the several general storekeepers, who are required to make timely returns of this property with its appraised value, and separate returns of all receipts and expenditures of stores under each Bureau; showing the amounts expended for "use," as well as that transferred, and therefore still available for expenditure for "use." These quarterly returns are to be accompanied with all the papers and vouchers necessary for their proper examination and settlement.

A system of abstracting these returns in the Bureau has been adopted by which it will be possible to tell at once the total amount and value of all the naval property on hand, or that of any one item or Bureau.

A general appropriation book showing all the appropriations made by Congress under the respective Bureaus is also kept. All expenditures authorized by chiefs of Bureau are duly charged against the respective appropriations, and daily balances available stated.

Under your order transferring the duty of procuring all supplies for the Navy to this Bureau, the work of consolidating the various estimates made by the chiefs of Bureau has been nearly completed, and the aggregate of each article stated; so that one advertisement for all the articles needed, in lieu of separate advertisements for each Bureau, has been possible, thereby effecting a considerable saving in expense, while a uniform and commercial classification will enable merchants to bid on articles they deal in without including others in which they do not.

In order to complete the system inaugurated by you, and outlined above, I respectfully recommend that Congress be requested to appropriate for all stores and material "for the Navy," in lieu of for the different Bureaus of the Navy Department as heretofore.

I append a partial list of classes with the number of articles under each class, which are common to Bureaus, where manifest economy would result from such appropriation.

Each chief of Bureau would be required to estimate, as heretofore, for all the various articles and money needed. These estimates would then be combined in one schedule and submitted to Congress, together with the Bureau estimates from which it was compiled. Congress would then have ample information before it to consider the estimates and make such changes as might be considered advisable under each Bureau, and the Bureaus would have a stated amount to control as before.

Besides the saving of stores purchased by duplication under the present method, this change would decrease the store-rooms and stores now necessary on board ships; and would obviate the necessity of keeping separate ledgers and returns for each Bureau; thus making possible a still further reduction in expense of care and issuance of stores.

The following is the list referred to, of naval stores common to two more Bureaus :

Classes.	Number of articles in each class.	Classes.	Number of articles in each class.
Ammunition (fire).....	8	Metals	20
Ammunition (small arms).....	31	Naval stores	4
Building material	21	Oils, lubricants, etc.....	21
Chemicals.....	3	Pipe and fittings.....	13
Chemicals, drugs, paints, etc.....	101	Supplies (engineers')	30
Clothing, boiler, and engine.....	26	Supplies (plumbers')	13
Food.....	5	Tools and hardware	239
Furniture, office, etc.....	10	Wood and willow ware.....	17
Lamps and lanterns	6	Miscellaneous articles.....	28
Leather, rubber, and belting.....	21		
Ships and timber	24	Total	661
Machinery and machine tools.....	20		

ADVERTISING.

I would recommend that the act approved March 3, 1843 (Vol. 5, Stats. at Large), relative to advertising for proposals for supplies, be amended so as to authorize you to expend for advertising only a certain percentage of the amount of the estimated cost of articles to be purchased. Under the present law, making it mandatory to advertise in certain specified channels, it is possible to expend in advertising nearly or quite as much as the value of the purchase.

CLOTHING FUND.

The "clothing" and "small stores" funds of the Navy are being gradually depleted, under a recent decision of the accounting officers of the Treasury.

When a recruit enters the Navy, either as an apprentice or under an enlistment, the paymaster is required to furnish him with an outfit, consisting of mattress, blankets, and uniform clothing, together with certain articles of small stores deemed necessary for his health and comfort. The value of this outfit averages about \$40, which is charged to the recruit's account. Should he desert before his indebtedness to the Government is liquidated, the auditing officers now charge such indebtedness to the clothing fund.

Again, when enlisted men are court-martialed and punished by imprisonment for a term of years, the clothing and small stores deemed necessary for their health during such confinement have been furnished by paymasters of receiving ships, and the value charged to the funds above named.

The amounts thus charged during the past fiscal year amount to a considerable sum, and there is no way in which to reimburse these funds for this expenditure by transfer of money from other appropriations. I recommend that the Government, in the case first cited, assume the loss outright, through appropriation "Pay of the Navy," instead of assuming it finally through the depletion of the clothing fund. In fact the loss is merely nominal, as the amounts due deserters and forfeited to the Government are about equal to the indebtedness of the same.

In the second instance, the value of the issues should be charged to the prisoner's account, and the balance of the pay due him, after deducting these charges, should be forfeited to the Government.

PAPERS ACCOMPANYING THE
CLOTHING FUND, NAVAL ACADEMY.

Section 4 of the act of March 2, 1867, provides that "the store-keeper at the Naval Academy shall be detailed from the Paymaster's Corps, and shall have authority, with the approval of the Secretary of the Navy, to procure clothing and other necessities for the midshipmen and cadets—engineers—now Naval cadets—in the same manner as supplies are furnished to the Navy."

Under the direction of a former Secretary of the Navy, the sum of \$24,500 was transferred from pay of the Navy to the cadets' store-keeper to constitute his capital to transact the various duties devolved upon him. This sum has remained, without change, in the custody of the cadets' store keeper, and used as indicated above.

The act of June 19, 1878, prohibits the use of any money appropriated for "Pay of the Navy," except for the pay of the officers and men of the Navy.

I therefore respectfully recommend that Congress be requested to legalize the present use of this sum, by transferring \$24,500 from "Pay of the Navy" to a fund to be designated "Clothing and other necessities for naval cadets."

TOBACCO.

Under the provisions of act of Congress approved March 3, 1881, it is provided that "the lowest bid for furnishing tobacco equal to the U. S. Navy standard now in use shall be accepted."

As the said U. S. Navy standard is not described or provided for in commercial terms, it is difficult for the Bureau to determine at this date what the U. S. Navy standard of 1881 is.

I therefore recommend that a commercial description and classification be adopted by Congress, which shall be recognized as Navy standard in the future.

PAY CORPS.

Under the operation of the law of 1882, reducing the three lower grades of the Pay Corps ten numbers each, the grade of assistant paymaster has been reduced to fifteen members, thirteen of whom are on duty, one on waiting orders, and one on leave. This grade is to be reduced to ten before there can be any new appointments, which will not be accomplished for several years to come.

The Bureau is of the opinion that the interests of the service would be greatly promoted if there were assistant paymasters available for assignment to duty as assistants to officers in the higher grades of the corps, particularly to those assigned to duty as general storekeepers, who would thus have the benefit of bonded and responsible assistants in the performance of their arduous duties. This association would be of equal benefit to the younger officers, through the business training and experience they would receive.

The Bureau recommends that the number of assistant paymasters be increased to twenty-five, being a present increase of ten, and that all appointments hereafter be made from graduates of the Naval Academy, subject to examination by a board of paymasters, as now provided by law.

DISBURSING OFFICERS' BONDS.

The Bureau repeats the following recommendation of its former chief, relative to disbursing officers' bonds, with a hope that legislation may soon be had on this important subject:

In connection with the subject of disbursing officers' bonds, the Bureau respectfully recommends the desirability of a modification of the laws governing the same, to the extent of authorizing the acceptance of corporate sureties, when of such character as to be of undoubted solvency.

The inconvenience and embarrassment attending the securing of private sureties in the periodical renewal of bonds is quite seriously felt by many disbursing officers, who, from causes incident to frequent changes of duty and station, are deprived of opportunity of establishing in a community friendly or social relations of a duration sufficiently extended to warrant them in soliciting a favor which embodies the strongest test of friendship.

After a pay officer has satisfactorily settled his accounts under an official bond, and after he has entered into a new bond for the further faithful performance of the duties of his office, the accounting officers of the Treasury should be required to cancel the old bond or return it to the pay officer. It is manifestly unjust to the officer and his sureties for the Government to retain the old bond for all time, reserving the right, as it does, of opening the accounts to which it pertains at any future period. In the language of a former distinguished Attorney-General (Taney), "The officers of the Government are not bound, from the nature of our institutions, to perpetuate an act of injustice in the name of the United States."

Indeed, the statutes have provided limitations for the prosecution of a certain class of offenders, and there is no reason why the same protection should not be extended to persons who are not offenders, but who are faithful servants of the Government.

I have the honor to be, very respectfully, your obedient servant,

HON. W. C. WHITNEY,
Secretary of the Navy.

JAMES FULTON,
Paymaster-General, U. S. Navy.

REPORT OF THE CHIEF OF THE BUREAU OF MEDICINE AND SURGERY.

NAVY DEPARTMENT,
BUREAU OF MEDICINE AND SURGERY,
Washington, D. C., October 15, 1887.

SIR: I have the honor to submit the report of this Bureau for the past year, together with estimates for the fiscal year ending June 30, 1889.

Estimates of appropriations required for the service of the fiscal year ending June 30, 1889, by the Bureau of Medicine and Surgery, Navy Department.

Detailed objects of expenditure, and explanations.	Estimated amount which will be required for each detailed object of expenditure.	Total amount to be appropriated under each head of appropriation.	Amount appropriated for the current fiscal year ending June 30, 1888.
SALARIES.			
Chief clerk (act March 3, 1887, U. S. 24, p. 621, sec. 392)....	\$1,800.00		
One clerk of class three (same act).....	1,000.00		
One clerk of class two (same act).....	1,400.00		
One clerk of class one (same act).....	1,200.00		
One clerk (same act).....	1,000.00		
One assistant messenger (same act).....	720.00		
One laborer (same act).....	650.00		
One janitor for Naval Dispensary (same act).....	600.00		
One laborer for Naval Dispensary (same act).....	480.00		
		\$9,400.00	\$9,460.00
One clerk of class one, for service in Pension division of Bureau; to enable the Bureau to promptly supply information from its records in reply to inquiries from the Commissioner of Pensions (submitted).....	1,200.00		

Estimates of appropriations required, etc.—Continued.

Detailed objects of expenditure, and explanations.	Estimated amount which will be required for each detailed object of expenditure.	Total amount to be appropriated under each head of appropriation.	Amount appropriated for the current fiscal year ending June 30, 1888.
MEDICAL DEPARTMENT.			
For surgeons' necessities for vessels in commission, navy-yards, naval stations, Marine Corps, and Coast Survey, and for the civil establishment at the several naval hospitals, navy-yards, Naval Laboratory, Museum of Hygiene, and Naval Academy (act March 3, 1887; R. S. 24, p. 586, sec. 391)		60,000.00	57,500.00
NAVAL HOSPITAL FUND.			
For maintenance of the naval hospitals at the various navy-yards and stations (same act)		30,000.00	20,000.00
CONTINGENT EXPENSES.			
For freight or expressage on medical stores, toll, ferriages, and expenses of messengers; transportation of sick and insane patients; care, transportation, and burial of the dead; advertising, telegraphing, rent of telephones, purchase of books and stationery, postage, and purchase of stamps for foreign service; expenses attending the Medical Board of Examiners; rent of rooms for Naval Dispensary and Museum of Hygiene; hygienic and sanitary investigation and illustration; hygienic and sanitary instruction; purchase and repairs of wagons and harness; purchase and care of horses and cows, and feed for same; trees, plants, garden-tools, and seeds; furniture and incidental articles for the Museum of Hygiene, Naval Laboratory, Naval Dispensary Washington, sick quarters at Naval Academy and marine barracks, and dispensaries at navy-yards and naval stations; washing for the medical department at Museum of Hygiene, Naval Laboratory, Naval Dispensary Washington, sick quarters at Naval Academy and marine barracks, dispensaries at navy-yards and naval stations, and ships and rendezvous, and all other necessary contingent expenses (same act)		25,000.00	25,000.00
REPAIRS.			
For necessary repairs of naval laboratory, naval hospitals, and appendages, including roads, wharves, outhouses, sidewalks, fences, gardens, farms, and cemeteries (same act)		25,000.00	15,000.00
For continuing the improvement of the naval hospital park at Portsmouth, Va. (same act)		5,000.00	5,000.00

NAVAL HOSPITAL FUND.

The condition of this fund is as follows, viz :

Balance on hand October 1, 1886.....	\$163,782.27
Transferred to the credit since October 1, 1886, by the Fourth Auditor..	89,522.26
Credit by appropriation for fiscal year 1888.....	30,000.00
Total.....	283,304.53
Expended since October 1, 1886.....	69,312.87
Balance on hand October 1, 1887.....	213,991.66

NAVAL HOSPITALS.

The request for increased appropriations for the preservation and repair of the several naval hospitals must be again repeated. These buildings have been in service for many years, and the work of restor-

ing roofs and improving the systems of plumbing and drainage is urgently demanded.

At the naval hospital, Yokohama, Japan, the privilege accorded to the consul-general of sending sick and disabled men from the United States merchant service to be cared for in the hospital has been exercised throughout the year.

NAVAL SANITARIUM, PENOBSCOT BAY.

At the last session of Congress the sum of \$50,000 was appropriated "for the construction of a naval hospital and sanitarium and wharf for landing on Widow's Island, Penobscot bay, Maine, said sum to be in full for all expenses of erecting and furnishing said sanitarium, including all necessary improvements on the island."

Plans for the hospital building prepared by Passed Assistant Surgeon Heffenger, U. S. Navy, were approved by the Department, and a contract was made, after due advertisement, with Messrs. Wm. H. Glover & Co., of Rockland, Me., 31st May, 1887, to erect a building at the cost of \$35,400, which sum was subsequently increased \$200 to substitute copper for tin in the covering of the roof, which seemed necessary from the very exposed condition of the island, and \$469.50 for the construction of the well-head and force-pump to supply the water-tanks of the building.

Dr. Heffenger was assigned to superintend the work, and Mr. Cox, carpenter, was subsequently sent to assist him in that duty. The work of blasting rock for a foundation was begun immediately, and the construction has proceeded without delay. The first payment of \$10,647 was made in August. The walls were completed and the building roofed in, and the second payment made October 13, 1887.

The building will be completed, weather permitting, by December 15, 1887.

The plans for the wharf of sunken cribs, with boat-house and float and ladder, were kindly made by Mr. Mackay, of the Bureau of Yards and Docks, with the approval of Commodore Harmony, and the contract for building was awarded to F. E. Hitchcock, of Maine, for \$2,185. The work proceeded without delay, and was accepted and paid for October 15, 1887.

It may be found necessary to place a suitable crane derrick on the end of the wharf for lifting heavy articles from lighters, which can be done in the coming spring.

The work of clearing up the island and planting trees has been interfered with by the presence of workmen and the spreading out of building materials. It will be renewed and completed in the spring of 1888, at which time the interior of the hospital will be fitted up and properly furnished for occupation.

I visited the island in August, before the claims for first payment of money under the contracts were approved, and carefully inspected the construction. Dr. Heffenger has been very thorough in his duty of superintendence, and was able to commend entirely the work done by the contractors,

The wooden building erected in the spring of 1885 has been removed to a position below the hospital terrace, and will be useful as a barrack for the men landed on the island from infected vessels who do not require hospital treatment.

PENSION CASES.

The number of letters relating to application for pensions received and answered during the year was nearly 2,300.

The request for another clerk for this division of work is again repeated.

A special allowance of \$1,000 is asked for, to be placed to the credit of the Bureau, for the purpose of having medical journals, abstracts, and case papers rebound at the Government Printing Office.

MUSEUM OF HYGIENE.

On July 1 the Museum of Hygiene was removed to a large and commodious building in New York avenue, near the Navy Department, where it is well established, with room for its increasing collection.

Dr. Turner's report is presented herewith.

Tentative experiments have been made at the museum upon the steel used in the new guns for the Navy in order to determine the chemical value of the steel.

These examinations have been limited to the determination of the amount of carbon, silicon, phosphorus, and sulphur existing in the samples presented. The investigation is interesting and important, as the presence of these bodies is known to affect the physical properties of steel.

MEDICAL CORPS OF THE NAVY.

The condition of the Medical Corps of the Navy, which was represented to you last year and commended in your yearly report to the attention of Congress, urgently calls for legislative action. The numbers are still diminishing. There are now twelve vacancies for assistant surgeons. The loss of members in the active list of the corps during the year amounted to nine officers; and only six assistant surgeons were appointed, one of whom has since resigned to enter the Medical Department of the Army.

A bill to improve the condition of this department of the Navy has been prepared to be submitted for your approval on the meeting of Congress.

INSANE OF THE NAVY.

There were sixty-nine patients belonging to the Navy treated in the Government Hospital for the Insane, in the District of Columbia, for the year ending September 30, 1887:

Remaining in hospital September 30, 1886.....	60
Admitted during the year ending September 30, 1887.....	9
<hr/>	<hr/>
Total under treatment.....	69
Discharged during the year:	
Recovered.....	6
Improved.....	1
Died.....	4
<hr/>	<hr/>
	11
Remaining in hospital September 30, 1887:	
Officers.....	7
Enlisted.....	51
<hr/>	<hr/>
	58

In consequence of the inability, from the want of accommodation, of the Asylum for the Insane at Napa, Cal., to receive any longer the insane patients from the Navy, the Bureau has directed the transfer of all of the insane of the Navy on the Pacific coast to the Government asylum near Washington, D. C.

GENERAL AGGREGATE—SICK.

The tabular statements of sick, etc., have been compiled from the reports of sick from the several naval stations within the United States, and from vessels on the home and foreign stations for the year ending December 31, 1886.

Very respectfully, your obedient servant,

Hon. W. C. WHITNEY,
Secretary of the Navy.

F. M. GUNNEILL,
Surgeon-General, U. S. Navy.

MARINE CORPS.

HEADQUARTERS UNITED STATES MARINE CORPS,
Washington, D. C., October 1, 1887.

SIR: I have the honor to submit my annual report of the condition of the U. S. Marine Corps.

On October 1, 1887, there were 1,893 enlisted men in the corps, 930 of whom were on board ships in commission, and 963 doing duty at the several shore stations.

During the past year there have been 701 enlistments, 147 re-enlistments, 6 enlistments from the Army, 10 deaths, 372 discharges, 415 desertions, and 6 enlisted men have been retired. There have been 2 officers and 21 enlisted men tried by courts-martial. One first lieutenant has been retired for physical disability, and 1 second lieutenant has died, 2 captains are under suspension by sentence of court-martial, and 1 captain and 1 second lieutenant are on sick leave on reports of boards of medical survey. There are but 78 officers on the active list, the present law requiring it to be reduced to 75.

In my report of 1885 I referred to the hardships resulting from a lack of promotion, and I again renew my recommendation that some increase in the higher grades be made, with a better distribution of officers. Twelve second lieutenants are totally inadequate for the duty required.

An increase of 500 privates is urgently demanded. With even the limited number of vessels now in the Navy and in commission, there are not enough men left on shore to properly garrison the different posts, and it constantly happens that it is necessary to send men to sea before they have been properly instructed in all their duties. A soldier should have at least one year's service in garrison before going to sea. Much of the desertion from ships is caused by this fact, the men not being familiar with the service become dissatisfied with ship life. The same reason, viz, paucity of numbers, is a powerful one for so many desertions on shore, the men being overworked. Nowhere in the Army are the men so constantly on guard duty and drill as in the Marine Corps.

I renew my recommendation for an appropriation to build barracks and quarters at the Norfolk navy-yard. The only building for the enlisted men now there is a wooden shed, not equal to the brick building in which the Government cattle are stabled near by. The officers have no quarters and live at long distances from the men. This matter has been brought forward year by year ever since the close of the war, but without result. Medical reports, calling attention to the limited space,

and the crowded and unhealthy condition of the troops, have also been submitted. It is earnestly hoped that the Department will urge upon Congress the necessity of an appropriation which has been submitted in the annual estimates.

The *Antietam*, at League Island, which has for several years been used as a barrack, has become so rotten as to fill with water and settle in the mud. She has now some 10 feet of water in her hold. The men are still forced to remain on board of her at the risk of an epidemic of fever, because there is no building in the navy-yard which is available, except at a heavy cost for alterations, which there is no appropriation to pay for. Either this post should be broken up altogether and the men distributed to other stations, or the estimate submitted should be allowed to become an appropriation to build proper barracks for the use of the men at this station.

Frequent inspections of the different posts during the past year show them all to be in a creditable state of discipline and efficiency.

Recruiting has been carried on as usual at New York, Philadelphia, and San Francisco, and at the posts, but owing to the limited appropriation for this purpose, the results are not as satisfactory as they would be if recruiting offices could be opened in country towns, where, it is believed, a better class of recruits might be had. Advertising in country newspapers does not seem to produce the desired effect. The former appropriation for "Transportation and recruiting" was \$10,000. This was reduced by Congress for the present fiscal year to \$9,000, which makes it necessary to be very careful in its expenditure.

The annual estimates for the support of the corps were forwarded to the Department on September 26.

Very respectfully, your obedient servant,

C. G. MCCAWLEY,
Colonel Commandant.

Hon. W. C. WHITNEY,
Secretary of the Navy, Washington, D. C.

REPORT
OF
THE SECRETARY OF THE INTERIOR.

DEPARTMENT OF THE INTERIOR,
Washington, November 1, 1887.

SIR: I have the honor to submit the following annual report of the operations of this Department for the year 1887:

PUBLIC LANDS.

Perhaps the most difficult and important duty with which this Department is charged is the administration of the public land system. The theater of its operations embraces nearly three-fourths of the area of the American States and Territories, and the vital influence exercised by the distribution of land ownership among the people renders the proper administration of the system of profound importance to the present and future prosperity of the country.

Under existing laws it is apparent that the area of our public land is rapidly diminishing. This would not be an evil if the lands were passing from the Government to seats of actual occupation by bona fide settlers, or bona fide purchasers for purposes of settlement. Nothing can be a surer safeguard in a free community against the dominating influences of powerful corporations and combinations of capital than a body of independent small land owners living upon their own freeholds. But the facts are known to be otherwise. It is a subject to which I have been forced by the necessities of my position to give much thought, and the conclusion to which I have come is that most of the troubles and abuses that environ it can be removed by legislative action; and that such action is the sole remedy.

A detailed statement of the work performed in the General Land Office and its various agencies throughout the country is fully set forth in the report of the Commissioner and the documents therewith submitted. It shows a commendable zeal in the purpose to preserve the public domain, to prevent fraud and illegality in the acquirement of large areas of public land, and to recover them from unlawful possession and appropriation.

LANDS RESTORED.

The Commissioner states that the following amounts of lands have been restored to the public domain since March 4, 1885:

	Acres.
Area within railroad limits.....	8,952,177.3
Area within railroad indemnity limits.....	21,323,602.6
Private land claims.....	576,000.0
Fraudulent entries canceled.....	400,000.0
Invalid swamp and other State selections canceled.....	566,704.6
Total restored to the public domain.....	31,824,484.5

In the effort to ascertain the proportion of the above amount which was restored during the last fiscal year, I caused a thorough examination of the records of the Land Department to be made, but was unable to obtain the desired information.

However, the investigation resulted in showing that from March 4, 1885, to October 1, 1887, the number of entries canceled for fraud, illegality, abandonment, and other causes amounted to 91,078, embracing an area of 14,238,913.04 acres, making an aggregate of lands restored to the public domain of 45,663,394 acres. In addition there are suits in the United States courts and matters pending before the Department, involving the question of the restoration of many millions more acres, amounting in the aggregate to 9,499,480.10.

Of this amount 2,897,869.85 acres were "adjudged by the Commissioner to be subject to recovery under the adjustment of railroad grants, so far as such adjustments have been completed." Nine grants are stated to have been adjusted, three of which have been transmitted to this Department. Two of these adjustments, those of the main and branch line of the Chicago, Saint Paul, Minneapolis and Omaha Railway Company, were passed upon October 7, 1887, and returned to the Commissioner for readjustment. The question presented and decided in that case was whether that particular granting act by Congress in that case allowed indemnity for about 62,000 acres of swamp lands and about 9,000 acres included within an Indian reservation. The exact phraseology of the indemnity granted by that act was for lands "*sold, reserved, or otherwise disposed of.*" The Commissioner held that swamp lands and reservations did not fall within that language. The Secretary held that they did so fall.

DISPOSAL OF PUBLIC LAND.

From the report of the Commissioner of the General Land Office it appears that the number of acres of land disposed of during the past fiscal year, under the various acts of Congress authorizing sales, entries, and selections, aggregates 25,111,400.84, of which 746,637.29 acres were Indian lands, 5,511,807.33 railroad selections, and 2,109,431.43 selections under other grants; the aggregate amount showing an increase of 4,862,524.55 acres as compared with the previous year. The receipts

om disposal of the public lands were \$10,783,921.72; from sales of Indian lands, \$1,484,302.30; a total of \$12,268,224.02; an increase over the previous year of \$3,247,727.03. To which is to be added \$8,291 received on account of timber depredations, and \$12,493.85 received for certified copies of records furnished by the General Land Office, making receipts of that Bureau from all sources \$12,289,008.87.

ENTRIES AND FILINGS.

The total number of entries and filings made during the year was 48,178, covering 38,337,039.41 acres; an increase of 1,770 over the previous year; whilst the number of original homestead entries was 52,028, covering an area of 7,594,350.16 acres; a decrease of 9,610 entries and 550,785.60 acres. Final proof was made on 19,866 homestead entries, of which 10,201 were commuted homestead entries, and 321 purchased under the act of June 15, 1880; an increase of 510 entries, and of 5,505.65 acres. The pre-emption entries were 21,403, embracing 172,411.80 acres; an increase of 5,691 entries, and of 893,193.41 acres. Under the desert-land act 2,242 entries were made, embracing 31,014.09 acres; a decrease of 276 entries and 2,674.54 acres.

Under the timber and stone act of June 3, 1878, 655 entries, embracing 80,622 acres, were made, being an increase of 226 entries and 29,928 acres as compared with 1886.

During the year 1,332 mineral entries were made, covering 28,787.82 acres. This is a decrease of 19 entries and an increase of 7,400 acres. This does not include 84 coal entries, covering 11,461 acres, an increase of 7 entries and of 1,294 acres.

PATENTS ISSUED.

The number of patents issued during the year upon agricultural lands was 24,553, an increase of 4,073 over the previous year, according to the report of the Commissioner, but a decrease, as compared with 1885, of 48,614.

In this connection it is to be stated that my immediate predecessor in the Department called attention to the great abuses flowing from the illegal acquisition of land titles by fictitious entries and the iniquitous exactions made upon "bona fide settlers, who are often obliged to buy off such claims in order to get access to the public lands." He states through the then Commissioner, whom he quotes approvingly, that enormous numbers of pre-emption claims are filed for illegal and fraudulent purposes; that large areas of agricultural and grazing lands are entered in fictitious names for the purpose of holding lands in large quantities, in violation of the spirit if not of the letter of the law. After enumerating the number of fraudulent entries in the several land States and Territories that have been investigated, and the large number of others that were suspended and awaiting investigation, he (the then Commissioner) states that he was forced to suspend all hearings, and

that he could not take final action upon them until Congress should provide him with more means and larger authority, in view of the vastness of the territory and the great proportion of such fraudulent hearings. He also stated that he was compelled to remove general suspension of entries in localities in which fraudulent entries had been reported as prevalent, "and to permit entries to go to patent without the investigation necessary to determine the bona fide or fraudulent character of any of them."

It thus happened that the present administration at the very start was confronted with a large accumulation of cases upon the files and records of the Land Department, in many of which irregularities and insufficiency of proof were apparent, and in others alleged fraud in the inception or attempted consummation, but no investigation had. It was evident that the administration of the Land Office would be powerless to prevent this indiscriminate and wholesale absorption of the public domain by fraudulent means, unless steps were taken at once to arrest the issuing of patents "without the investigation necessary to determine their bona fide or fraudulent character." It was determined, therefore, to inaugurate new methods and establish other rules, which it was hoped would tend to prevent these frauds and to facilitate and promote the interests of the honest settler. Assuming the declarations made by the then Commissioner, and evidently believed by my predecessor to be true, anything like an approximate arrest in the amount of fraudulent entries of every kind and in the issuance of fraudulent patents must materially and signally diminish both.

New rules to remedy these great abuses, thus announced and reiterated, have now been in operation for some time and are acting well; yet the claims which were initiated under them have not yet been reached and passed upon preliminary to patent, for the reason that it was found necessary to clear away as far as possible the mass of suspended and uninvestigated cases which had accumulated during former years. Most of the work has now been disposed of. The new cases are now about reached, and will be disposed of with much more expedition and facility than was, perhaps, heretofore practicable; so that settlers will hereafter receive the muniments of their title in a comparatively short time.

Perhaps one of the immediate effects of the new methods adopted by the Land Office to insure a more strict compliance with law in the acquisition of title to the public lands, is shown by the falling off in the number of original homestead, timber-culture, and desert-land entries during the past year. This decrease may be accepted as proof that the new methods are bearing legitimate fruit, and that speculators and other evaders of the law have found out that at last it is not safe for them to attempt to patent land without honest compliance with the necessary legal prerequisites. It also shows that patents hitherto issued "without

the investigation necessary to determine their bona fide or fraudulent character" went to those who did not desire them for homes.

The report of the Commissioner demonstrates the imperative necessity of providing a much larger force of special agents for effective work in the prevention of these frauds upon the Government and the people. I concur with him as to the necessity of such legislation, but I deem it my duty to state that the most liberal appropriations for this purpose will be inadequate to prevent the wholesale appropriation of the public lands either by actual frauds or such technical compliance with the pre-emption, timber-culture, and desert-land laws, as will violate and defeat the great policy of our public land system looking to the preservation of the public lands for the abodes of our homeless people, to be acquired by actual settlement, residence, and cultivation. With these laws in force and the appliances used for their perversion in vigorous operation, every attempt by mere administrative agencies to prevent the evils complained of will be fruitless and unavailing.

I respectfully but earnestly reiterate my advice that you recommend the immediate and total repeal of the pre-emption laws, the timber-culture acts, and the relinquishment acts, and add thereto the cash-entry laws and the desert-land law. Preferring a tentative and gradual system of reform, I have hitherto suggested amendments to these two latter, but the failure of Congress to make such amendments, and further experience of the injurious effects of their remaining on the statute-book in their present form has convinced me that all except the homestead law should be swept from the statute-book. More than a quarter of a century has elapsed since the passage of the homestead law. Its operations, at least during the last decade, have shown it to be the wisest and most honest method of disposing of the agricultural public lands, embracing all the advantages of the pre-emption system without its acknowledged facilities for fraud and abuse. My idea would be a short act repealing those laws by enumeration and providing that the public land subject to disposal should be entered exclusively under the homestead laws. The mineral lands and the timber reserves, and some other specific laws applicable to particular sections of the country, should be saved from the operation of the act. The passage of such a law, apart from its other benefits, would be in the interest of economy, as it would supersede the necessity of so large an increase in the clerical force of the Bureau as is now demanded under existing law.

THE ADJUSTMENT OF RAILROAD GRANTS.

Shortly after my appointment to the position I now have the honor to hold, and as I became somewhat familiar with the public land system, its organization, and the workings thereof, I became more and more impressed with the fact that the public domain was being diverted from its legitimate purpose and converted to objects the inevitable effect of which were repugnant to the entire theory on which the land system was based.

Apart from the methods of illegal appropriation of the public domain effected through the perversion of the several laws for acquiring title thereto, I became convinced that the administration of Congressional grants of lands to wagon and rail roads had given rise to enormous abuses. Congress had not only made grants which in some instances exceeded in extent the area of a half dozen of the largest and most populous States of the Union, but in addition provided that any losses of lands within the granted limits should be satisfied by selections of lands within other and adjoining limits, thus nearly doubling the area of the original grants. Under these acts the Land Department had withdrawn from public appropriation not only the granted limits as required by law, but also the lands within the indemnity limits at the request of the grantee companies. Thus enormous quantities of the public land were held in reservation to await the convenience of the respective corporations in the construction of their roads, the selections of its lands, and the uncertain adjustments of the grants by the Department.

I do not for a moment mean to question the wisdom of aiding in the construction of railroads. That policy was at the time a wise one. But in the light of experience it may well be asked whether it would not have been wiser to have aided these great enterprises otherwise than by grants of the public domain. Though much good has been wrought, certain it is that the legislation by which these vast territories passed under the dominion of railroad companies gave an incurable wound to the homestead scheme before that scheme had a fair opportunity for displaying its beneficent effects.

This land-grant legislation was certainly not in harmony with the theory of a distribution of the public domain among the people, and gave up to capitalists, as a basis for traffic and speculation and gigantic financial schemes, what was by the original policy of the Government designed to be homes for an industrious and thrifty people, the abodes of domestic happiness and virtue and patriotism. Notwithstanding these indemnity withdrawals were made exclusively for the interests of the company, few of these, if any of them, constructed their roads within the time prescribed in the granting act, as an express condition on which the grant was made. Maps of "probable," "general," "designated," and "definite" routes of the roads were filed with rapidity in the Department, and withdrawals thereunder asked and almost unvariably granted until the public land States and Territories were gridironed over with railroad granted and indemnity limits; and in many instances the limits of one road overlapping and conflicting with other roads in the most bewildering manner, so that the settler seeking a home could scarcely find a desirable location that was not claimed by some one, or perhaps two or three, of the many roads to which grants of land had been made by Congress.

Nor was this all. Though the desired tract might not be apparently

covered by a railroad location, the settler would hardly select it before agents of the corporations would set up a claim to it, or to the right to occupy and denude it under the right of way and construction privileges conferred by the granting act. Thus the settler, ignorant of his legal rights and with no one to advise him with respect to either the law or the facts, would for the sake of peace and a home readily consent to purchase from the company. In this way these corporations, in addition to the lands granted to them, have claimed, sold, and received the price of a great deal of other land to which they had neither legal nor moral right, nor the shadow of either.

The confusion, hardship, and impositions practiced upon the settlers were greatly increased by the bold schemes of the corporate agents where withdrawals were made of lands to which the legal title of the companies had not attached, and which afterwards remained in the same condition for years through the failure of Congress to make the necessary appropriations for the surveys.

When, however, through partial surveys or adjustments of grants, lands thus sold by a company were found to be outside of the grants and determined by the Department to be public lands, the purchaser from the company found himself in the unfortunate predicament of having lost both his land and his money. Generally without the means to enter into a costly litigation with a powerful corporation, the deprivation of his home, the expenditure and waste of his years, his energy and strength, in redeeming that home from its wild condition, rendered his mere technical right of action against the company but little more than a mockery.

Years have elapsed since many of the grants have been made and other years since the withdrawals. Some of the companies have constructed the entire line of their roads, others fragmentary portions only, and others, again, none at all; but the withdrawals of the lands were no less effective as a barrier against the settlers in the one case than in the other. It mattered not what might be his equities acquired by years of toil upon what he believed to be a part of the national domain. It was declared by the highest judicial tribunal, as expounded by the highest law officers of the Executive, that a withdrawal once made by competent authority was legal and effective to exclude all from intrusion within its limits.

One such case, where hardship and injustice were about to be inflicted under the law, came under your observation. Guilford Miller settled upon lands afterwards selected and claimed by the Northern Pacific Railroad Company to be within the withdrawal for indemnity purposes. Some doubt arising as to the legality of that withdrawal, the case was referred by this Department to the Attorney-General for his opinion on the question of law. That officer held that the withdrawal was legal, and that during its existence Miller could acquire no right or title to the tract claimed by him and on which he lived. Whilst recognizing

the correctness of the law, you saw the injustice of the case so far as the individual settler was affected; and that hundreds of others were similarly situated who might and would be affected; and you directed that such grants should be so administered by this Department as, if possible, to protect these settlers from such injustice, stating your belief "that this can be done under the provision which declares that these selections shall be made under the direction of the Secretary of the Interior."

After years of waiting, Congress had failed to empower the Department to make the necessary surveys whereby some of the grants might be adjusted, and no immediate prospect of such surveys was in sight.* But a law was passed March 3, 1887 (24 Stats., 556), whereby the Secretary of the Interior was "directed to immediately adjust each of the railroad land grants made by Congress to aid in the construction of railroads." With an earnest desire to obey the mandate of Congress, to give to the corporations their every right under the laws, and at the same time follow the directions given by you to see that ample protection should be extended to settlers and those seeking to make settlement on the public lands (a matter which had been so long and so utterly overshadowed), I entered upon a most careful consideration of the whole subject of the history and law relating to land grants, and concluded that if the Department was clothed with authority to make indemnity withdrawals, as had been done in so many instances, the exercise of that authority was a matter entirely within sound discretion, and not

*But even where surveys have been completed, in many instances the railroads have failed to avail themselves of their right of selection. This is notably true of the Union Pacific, the Kansas Pacific, and the Central Pacific Railroad companies.

For instance, the grant to the Union Pacific Railroad Company in the State of Nebraska amounts to about 4,853,844 acres. Of these lands, all but about 255,000 acres had been surveyed prior to the completion of the last section of the road in 1869, and the surveys of the remaining lands were completed during the year 1877. Although ten years have elapsed since the completion of the survey within the limits of its grant in said State the company has selected but 3,024,444 acres, the same being less than two-thirds of its grant therein.

The grant to this company in the State of Colorado amounts to about 590,000 acres, of which about 150,000 were surveyed at the date of the completion of the road in 1869, and all of which are now surveyed. It has selected but 610 acres in said State, and that was of an even-numbered section selected under the special indemnity act of June 22, 1874.

The grant to this road in Wyoming amounts to about 5,016,000 acres, of which all but about 50,000 acres has been surveyed, two-thirds of which was surveyed prior to 1876. Up to this time it has selected but 80,317 acres in said Territory.

Its grant in Utah amounts to about 850,000, of which about 85,000 acres was surveyed at the date of completion of the road in 1869. About one-half of the grant was surveyed prior to 1876, but about 370,000 acres are still unsurveyed. The company has selected only 42,360 acres in said Territory.

The grant to the Kansas Pacific Railroad Company in the State of Kansas amounts to about four millions of acres. Of this all but about 208,000 acres was surveyed at the completion and acceptance of the last section of said company's road, which occurred October 19, 1872, and surveys of the whole were completed during the year 1874.

a matter of legal obligation in any respect; that the same sound discretion which, in the interest of the companies, justified said withdrawals now demanded peremptorily in the public interest a speedy revocation of the same; and that the most effective way of expediting an adjustment of the land grants, and doing exact justice to the companies, guarding and promoting the interests of the settlers also, was to permit the public to enter into competition with the companies in the selection of lands heretofore withdrawn for indemnity purposes.

Accordingly, on May 23, 1887, with your approval, rules were laid upon the different companies for whose benefit withdrawals had been made to show cause by a day certain why said withdrawals should not be revoked. Some of the companies failed to show cause; others filed answers assenting to the revocation, as they had received satisfaction of the grant either in full or as far as possible; others assented on condition that lands covered by selections already made should be excepted from the order of revocation, and other companies objected to the order of revocation as illegal and a violation of chartered rights. Briefs were filed and oral arguments accorded to the counsel of such companies as desired to be heard, all of which were fully and carefully considered, as was due to the importance of the questions and the magnitude of the interests involved; and on August 13, 1887, my views were fully expressed in a decision rendered in the case of the Atlantic and Pacific Railroad Company, which by answer and argument raised nearly all the objections that were presented in part only by a number of other companies.

I send herewith a copy of the whole text of that opinion, in which those objections were answered seriatim.

Two days later the orders withdrawing the lands within the indemnity limits and reserving the same from settlement were revoked, and the lands restored to the public domain and to settlement, first, in the cases of two companies which had not answered; second, in those which, answering, assented; the third, in the cases of the following companies, which set up defenses coming within the rulings in the foregoing opinion:

Alabama and Chattanooga R. R. Co.
California and Oregon Land Company.
California and Oregon R. R. Co. consolidated with the Central Pacific R. R. Co.
Chicago, St. Paul, Minneapolis and Omaha Rwy. Co.
Dalles Military Road Co.
Flint and Pere Marquette R. R. Co.
Florida Railway and Navigation Co.
Gulf and Ship Island R. R. Co.
Marquette, Houghton and Ontonagon R. R. Co.
Missouri, Kansas and Texas Rwy. Co.
Mobile and Girard Railroad Co.

New Orleans Pacific Rwy. Co.
Northern Pacific R. R. Co.
Oregon and California R. R. Co.
Oregon Central Wagon Road Company.
Pensacola and Atlantic R. R. Co.
St. Louis, Iron Mountain and Southern Rwy. Co.
St. Paul and Duluth R. R. Co.
Southern Pacific R. R. Co.
Tennessee and Coosa R. R. Co.
Vicksburg and Meridian R. R. Co.
Vicksburg, Shreveport and Pacific R. R. Co.
Wisconsin Central R. R. Co.
Wisconsin Farm Mortgage Company.

In the Congressional grants to the following railroad companies, the Hastings and Dakota, the St. Paul and Northern Pacific, the St. Paul, Minneapolis and Manitoba, the St. Paul and Sioux City, the Sioux City and St. Paul, and the Winona and St. Peter, it is provided that upon filing the maps designating the routes of said roads and branches it shall be the duty of the Secretary of the Interior to withdraw from market the lands embraced within the provisions of the act making the grant.

In consequence of this provision these roads were omitted from the orders of restoration.

It will be seen from the order passed in the Atlantic and Pacific case, and which was applied to the other companies *mutatis mutandis*, that whilst it was determined that the lands in question should not longer be withheld from appropriation under the settlement laws, every precaution possible was taken to protect the legal rights of the corporations.

Following this action, instructions were subsequently issued to the Commissioner of the General Land Office to detail all the available force in his office to the work of adjusting the road grants, making said work special and proceeding as rapidly as possible with the same, to the end that the companies should be fully protected in their just claims, and have certified to them all the land they were entitled to, speedily and without delay; and the residue of public lands, disencumbered of corporate claims and pretensions, become free for the use and quiet enjoyment of settlers. The amount of land restored to the public domain, through the orders revoking the indemnity withdrawals, is stated by the Commissioner of the General Land Office to be 21,323,600 acres.

I beg to refer to what has been said in another part of this report in relation to the imperative necessity of appropriations for the surveys, without which a complete adjustment of these railroad grants is not practicable, at an early day.

UNLAWFUL INCLOSURE OF THE PUBLIC LANDS.

The work of returning to the people the large areas of the public land hitherto illegally appropriated by corporations and individuals engaged in the cattle business on the plains, has progressed most successfully during the past year. The papers transmitted from the General Land Office show that 465 illegal inclosures, aggregating in area nearly 7,000,000 acres, have been reported. In 133 of these cases, involving 3,275,000 acres, proceedings have been instituted, and in 165 cases the special agents report the removal, complete or in progress, of the illegal fences, throwing open to public use and occupancy 3,394,000 acres.

This does not include the work of the two inspectors, Messrs. Bowers and Hunter, sent from my office to the Territories of New Mexico and Wyoming. Through their agency fences have been removed in 119

cases, embracing an area of 1,500,000 acres of public land, making a total of nearly 5,000,000 acres restored to the public domain. The first step taken to overthrow and stop this great and steadily increasing inclosure of the public lands came in the act to prevent unlawful occupancy of the public lands of February 25, 1885. The passage of this measure meeting with scarcely any compliance by these hardened violators of the law, on August 7, 1885, the President issued a proclamation calling attention to the violation of this act, and enjoined upon all persons obedience to it. While the erection of their fences was arrested, and some fences were removed in conformity to this proclamation, even this warning from the highest executive officer of the nation was disregarded among these men who had been for so long a time a law unto themselves. At this point I was provided by Congress with two inspectors for public land service. They were sent at once to New Mexico and Wyoming, and have since September, 1886, been chiefly employed in their respective Territories in enforcing the removal of illegal inclosures. From them I have obtained direct and special information concerning this question, and have been able by immediate action through this agency to obtain most satisfactory results.

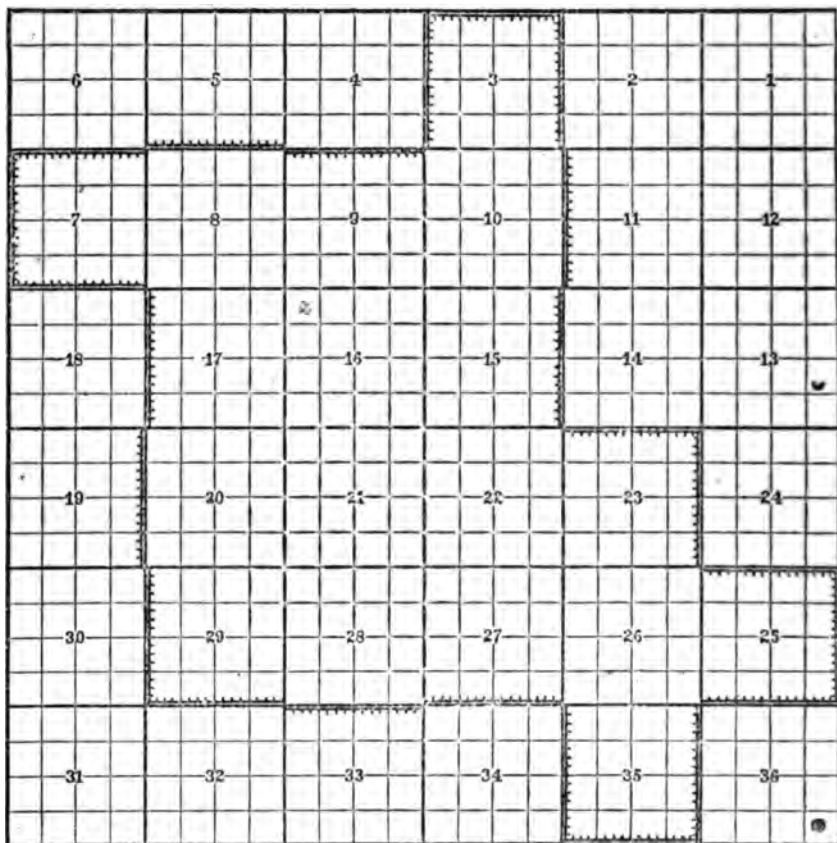
The present status of the question of illegal inclosures, therefore, is far better than I anticipated or reasonably hoped at the time I made my last annual report, and it is a source of some congratulation that so widespread and so thoroughly entrenched an evil has been overcome without serious injury to, or collision with, the people of the range cattle country. In short it is apparent that this wholesale appropriation of the public domain is a thing of the past, and that these vast areas of the public heritage have been restored to the people.

Only where corporate connivance and prodigal railroad grants came to their assistance have the cattlemen defied the law and rendered powerless the efforts of this Department to correct this abuse.

As I write this report complaints come from a region lately visited by my inspector that certain large and wealthy corporations, composed of foreigners, are constructing further inclosures within the railroad limits. That others are only waiting to see what action, if any, the Government proposes to take to prevent this, and are ready to pursue the same course if this can be safely done. Within the limits of the railroad grants to-day exist the only large or continuous inclosures of public lands. This cunning device for violating the law and furthering their own ends at the expense of settlement could never have been made effectual unless the railroad companies had come to the aid of these capitalists and cattle-men. The method by which this has been done and the law evaded was shown in my last report, on page 31, to which I refer, and which I again herewith submit:

Another obstacle in the administration and enforcement of the law has been the large grant of lands that has been made in alternate sections to railroads along

their lines. In Wyoming the railroads have parted with their titles to these alternate sections, and the purchasers have erected fences upon them in such a way as not to build upon any lands belonging to the Government, and yet to inclose large portions of the public domain. The following diagram illustrates how this has been done:



A, having purchased the odd-numbered sections from the railroad in the township represented, starts his fence at the northeast corner of section 9 and builds along the north line of that section. Arriving at the northwest corner of section 9, he puts in a post on the southeast side of the corner-stone between sections 9 and 5, and his fence stops at that post. He then puts in a similar post on section 5 on the northwest side of the north corner-stone, and from 12 to 18 inches from the post in the northwest corner of section 9. Being now on section 5, which he owns by purchase from the railroad, he runs his fence along on section 5, and diagonally opposite to the northeast corner of section 7, where a similar gap of from 12 to 18 inches is made. This he jumps across to section 7; and so on around the entire inclosure. Precisely the same method is resorted to in Arizona.

In reference to these latter inclosures within the limits of railroad grants, the Department has been unable to make any substantial progress; now, as a year ago, the public domain is inclosed in this manner.

Two attempts to secure indictments under the provisions of the act of February 25, 1885, against the parties thus maintaining fences failed,

largely due, probably, to the presence upon the grand jury of men who are themselves violators in this evasive manner. If the present law is to be thus ignored and action under it paralyzed, some further legislation is necessary. Two plans have been considered by the Department, requiring Congressional action, to remedy this remarkable and annoying evasion of the law. The first is to enact a bill establishing a public highway, four rods wide, around every section of land, the section being the center of such highways. Make this a part of the public land system, so that all future entries made upon the public lands should be subject to this provision. Similar laws are now in force in several Western States and Territories, passed by local legislatures early in their development, to provide frequent and ample means of communication through the country, with little expense to the counties. Such laws have hitherto proved very beneficial to the people and the State, obviating the frequent and vexatious determinations of highways prevalent in localities where such a statute has not been in operation.

When the land taken for such highways has passed from the Government into the hands of private parties the bill should provide for necessary compensation. This would require a comparatively small amount, owing to the present low value of these lands.

By such a measure the system shown in the accompanying diagram would be impossible—the public highways acting as barriers to the unbroken lines of fences. An additional advantage, too, would follow from these highways in opening free access to the streams and water courses throughout the whole grazing region, now so completely and exclusively controlled by a few to the permanent injury of many desirous of ranging stock upon the broad uplands of the public domain.

The objection, often urged against this plan, that it would be enormously expensive for the Government to construct these highways, has no force. It is not proposed to do so. The present value of these highways lies in breaking up this system of fencing and furnishing access to the alternate sections of public land and the water-courses, thus stimulating an early settlement of the country. Their future value to the people who may develop this vast region into a prosperous and settled community is simply beyond any estimate.

The second plan considered is through the passage of a bill to authorize the Secretary of the Interior to lease the intermediate sections of public land to the owners of the adjacent railroad sections. Necessary provisions of this bill would be that such leased lands should be subject to entry under the land laws at any time, the lessees' rent terminating from the date of entry; that entrymen should have a right to lease adjacent public land proportionate to the area entered; that gates should be placed to suit the convenience of the settlers, one every mile. Such a bill would be a relief measure for the purchasers of the railroad lands, and as this condition of affairs has arisen from the granting of land in

this manner by Congress, it may, perhaps, be fairly urged that relief should come through Congress.

The objection to such action is, that one class of law-breakers would go unpunished and, relieved from compliance with the law, would be granted especial privileges.

The question is one of importance, not only in its present bearings, but also from the future evils which are liable to arise throughout the vast areas similarly granted to railroads from our western domain.

PUBLIC SURVEYS.

I renew the suggestion in my last annual report in favor of the enactment of a law making false and fraudulent returns of public surveys a penal offense, and providing also penalties for the willful destruction or removal of surveying monuments. Special attention is called to the recommendation of the Commissioner for the appropriation of \$300,000 for executing public surveys. I concur in this recommendation.

The appropriations for 1884 were \$425,000, whilst those for 1887 and 1888 were, respectively, only \$50,000! This is a very serious matter. It would be less disastrous to the interests of the people to abolish the present mode of administering the public surveys and remit the whole subject to the States or dispose of it in some other way, if the Executive is not afforded the means of properly administering this branch of the public service. Our plan of surveying the public land is a most admirable one, and its correct administration lies at the very foundation of our established land system. But if the public surveys are not conducted with honesty and exactness, they are a snare and delusion to all who obtain title under them.

The Commissioner shows that where surveys have been made in many instances it is impossible to throw open the surveyed land because of the want of means to cause the surveys to be verified in the field or to have the necessary office work done. In addition, he shows that large bodies of valuable land are unsurveyed and no means available for the purpose of surveying them. Public interests demand that those lands be placed in such a condition that settlers may be able to acquire title to them. If it be true that one of the great objects in view is to facilitate the acquisition of homes by the homeless and industrious, the impolicy of retarding the surveys of the public lands is the more apparent; and when we reflect that the public-land system is not a burden upon the tax-payers of the country, but the source of a large and unneeded income to the Treasury, the policy which hampers this administration is the more unaccountable. Frequently cases come before the Department where, after years of residence and improvement, the settler dies without having been able to secure title to the land, leaving that which ought to be the home of his helpless family to fall into the possession of others, and all because, in the absence of a survey, there is no means of securing title.

Another evil of these insufficient appropriations lies in the fact that several of the railroads, to which land grants have been made, pass for considerable extent through unsurveyed public lands. In the granting acts to these companies is a clause directing the Executive to cause the land to be surveyed along the line of the road, so that the lands to which it may be entitled shall be made over to the company as fast as the road is constructed. But the Executive has been unable to comply with these directions because Congress has not thought proper to furnish the means to make the necessary surveys, and there was no other source from which it could come.

It is impossible for a settler to tell or even guess in an unsurveyed wilderness the even section from the odd, and he is as likely to make his settlement and his home upon the one as upon the other. When the survey is made, if that settler is found located within the primary limits of a grant upon an odd section, or any portion of one, he loses the land, because it is granted to the company. The same trouble would occur within the indemnity limits so long as the withdrawal thereof stood, for then under the law the rights of subsequent settlers were subordinate to those of the companies. Now, under the recent action of this Department in revoking the indemnity withdrawals, whilst the actual settlers will be safe in locating upon unclaimed lands within those limits, the companies most probably will be considerably curtailed in the amount of lands from which they may select indemnity for losses within the granted limits, which losses cannot be ascertained until the surveys separate the odd from the even sections.

In view, therefore, of the general interests of the public, those of the settlers and of the railroad companies, and with an especial view to the speedy adjustment of the various land grants in obedience to the mandate of Congress, the appropriation for these surveys should be fully adequate to the results contemplated.

In this connection attention is called to the significant statement found on page 92, of the Report of the Commissioner. Attention is also called to the fact that because of the want of funds to make necessary surveys in Montana, the Government sustained a loss in that Territory last year estimated by the Commissioner at over \$1,000,000. (See page 14 of his Report.)

Special attention is also called to the several reports of the governors of the Territories, all of which are burdened with complaints of the want of public surveys within their respective jurisdictions.

I have above indorsed the recommendation of the Commissioner for \$300,000, but I beg to urge the appropriation of \$200,000 not asked for by him, to be specially devoted to the survey of lands within the granted and indemnity limits of the different land-grant railroads. There are lands along the lines of all three of the great routes to the Pacific which are unsurveyed. The roads are completed. The country through which these roads pass has been mostly settled by an industrious popu-

lation who are unable to obtain title to the unsurveyed lands, which the same belong to the Government or to the railroad company. As long as these lands remain unsurveyed it is impossible to adjust the land grants, to ascertain what are the losses of the corporations within the primary limits, and to what indemnity lands they are entitled. Great confusion and many hardships have resulted for the want of the necessary appropriations for the survey of the lands along the lines of said roads.

It is manifest that it was the intention of Congress in making the grants that the survey should keep pace with the construction of the roads, making it practicable to adjust the grants as the roads progress. It is now urged that Congress afford a remedy for these long-standing evils by appropriating the sum asked to be devoted specially to the survey of the land referred to.

DEPOSITS FOR SURVEYS.

A further experience of the pernicious practices that have obtained under the system of deposits for surveys confirms me in my former recommendation for the repeal of those laws, which I here renew.

PRIVATE GRANTS.

Another subject which, I would respectfully suggest, demands immediate legislation is the matter of private grants claimed to be derived from the Spanish or Mexican Governments. This legislation, in my opinion, should be directed to two points: (1) to providing for a trial and final determination of such claims, subject only to appeal to the Supreme Court; (2) an act of limitations barring the presentation of new claims of this character within a stated period.

By section 8 of the act of July 22, 1864 (10 Stats., 308), it is made the duty of the surveyor-general of New Mexico to "ascertain the origin, nature, character, and extent of all claims to lands under the laws, usages, and customs of Spain and Mexico." He is to make report of all such claims with his decision as to the validity or the invalidity of the same, which report shall be laid before Congress for action, and until final action of Congress on such claims all lands covered thereby shall be reserved from sale or other disposal by the Government. Under the provisions of this law, from time to time since its passage, many claims have been made and acted upon, whilst a number are yet pending before Congress unacted upon. The extent and number of the unconfirmed claims can not be accurately stated, as such claims are being continually made, and those heretofore presented seem to grow enormously in area with each passing year in the issuance of patents thereon. At the present time it is approximately estimated that the amount of public land actually reserved from entry and settlement because of such claims is a little short of 6,000,000 acres. Most of this land has been thus reserved for many years, used, enjoyed, or transferred

and sold as freely by the pretended claimants as though their title had been fully confirmed.

In regard to the lands under Mexican or Spanish title thus held in reservation, this Department is powerless to act, as such reservations are established by act of Congress, and must continue perpetually until that body acts. The well-known fact that by means of such a claim possession can be readily obtained and retained of large bodies of land does very much to do with their continued increase. The claimant has not to pass the ordeal of the surveyor-general's office, where the examination is *ex parte*, often perfunctory, superficial, and possibly erroneous. A favorable report being obtained the law steps in, ousts the jurisdiction of the Land Department from the claimed territory, segregates it from the public domain, and the claimant under this most shadowy and often colorless pretense of title is installed and protected in the enjoyment of all he claims as fully as though possessed of an absolute right and title.

Millions of acres of public lands are thus held by claimants, and have been held for many years, in some instances for more than thirty years, and in most instances the lands thus held are the best for many miles around. The claimant being thus guarded and protected in his enjoyment until Congress acts, has no motive to follow up further action by Congress, after the report of the surveyor-general has been transmitted to that body, for whilst the report sleeps in the committee-room his possession and enjoyment of this vast estate remains undisturbed. I need not go further to show the inducements thus held out to the presentation of false claims resting on foundations so shadowy that under other circumstances no one would be tempted to rely upon them. And hence to-day, thirty-three years after the passage of the act, as is shown by the report from the General Land Office, there is but little abatement in either the number or extent of the claims being presented to the land officers.

The surveyor-general of New Mexico states that during the past year examination has been made of a number of new claims and of old claims (heretofore favorably reported) yet pending before Congress unconfirmed, the area of which aggregates by estimation 4,000,000 of acres; whilst he thinks 200,000 acres will cover all legal and equitable rights thereunder. Nearly forty years have elapsed since the United States has assumed a solemn treaty obligation to perfect and confirm rights existing under these claims.

As to what action is best to be taken in the premises, opinions differ, but that some action should be taken, and speedily taken, all who know anything about the subject agree. I confess the subject is somewhat difficult to deal with, but after the best consideration I am able to give it, together with my experience in relation to these private land claims, I am now of the opinion that the most desirable and effective manner of disposing of them would be through the land department. Provision should be made for an appeal to the Secretary of the Inte

rior, whose decision should be final, unless an appeal be taken directly therefrom to the Supreme Court of the United States. As at present organized and equipped, with a slight increase of force, this Department is fully equal to dealing with and determining all legal questions arising under these grants. It has at its disposal legal talent, trained and familiar with questions of land law and in the habit of acting judicially in other cases. Representing the executive power of the Government, this Department must in any event be a large participant in any action in relation to these grants. The official documents, the archives, ancient and modern, relating to the public lands and foreign grants, are in its custody and must there remain. Even were laws enacted transferring entire jurisdiction in relation to these foreign grants to the courts, it would be almost impossible entirely to separate the private lands from the public land system without the interposition of this Department. In fact, now, where grants are confirmed by Congress, this Department has to supervise the surveys in order to carry them into patent. Under any plan suggested this Department must be an important factor in administering the law as to these grants; it would, therefore, seem to be the part of wisdom to confer upon it sufficient jurisdiction and power to fully adjudicate and adjust them, thus dispensing with the unnecessary operations of two machines, neither of which is complete in itself or capable of perfecting the work. The agents and officers of the Department visit or are located in every section where such claims may arise. If clothed with proper authority, the parole testimony desired could be taken before them; though in view of the lapse of time very little testimony except that of record would be presented. That testimony is already on file among our records. Provision should be made for serving process and making the decision of the Commissioner of the General Land Office final, unless appeal be taken to the Secretary, and the decision of the latter officer final, subject to appeal, as before stated, to the Supreme Court of the United States. Such a plan, in my opinion, would be simple, inexpensive, and accomplish the settlement of these claims in a much more expeditious and satisfactory manner than any of those heretofore suggested.

When a member of the Senate I favored the idea that the ordinary judicial tribunals of the country were best adapted to deal with the subject, as in other cases where the same rights are at stake, and more in accord with the spirit of our institutions; and further because whatever legislation may be enacted or executive action taken, sooner or later each and every grant finds its way into the courts and in some way receives a judicial construction. A larger experience has, however, brought me to realize the force of the objection urged in the reports of the surveyor-general of New Mexico, that the right of the National Government to lands can not be wisely left to the arbitrament of local tribunals which are more or less under local influences and supposed to sympathize with

the individual claimant as against the Government, and to be inclined to deal with his pretensions in a spirit of undue liberality without due regard to legal rights. That experience has shown that the subordinate officers of the Government who are charged with the protection of the interests at remote points become easy prey to the same influences, and the trial of such cases almost invariably degenerates into an *ex parte* hearing wherein the claimant is allowed and expected to make out his side of the case, if in his power, without opposition or resistance or a due regard to the rights of the defense. Further, it is stated that the dockets of the local courts in the Territories are already overburdened with causes which the judges find themselves utterly unable to dispose of as expeditiously as the proper administration of justice demands. Such cases would almost invariably be carried up the United States Supreme Court, certainly as often as they would be if decided by the Department.

The existing method which requires the action of Congress in each case should be abandoned. The machinery possessed by Congress is not well adapted to the investigation of the details incident to such claims; though it has ample power to send for persons and papers, the inquest which it would institute is in its very nature *ex parte* and somewhat private. It must be conducted at a great distance from the *situs* of the grant and the homes of the witnesses, whose personal attendance is only procured at a great expense to the claimants, or, if dispensed with, whose facile affidavits fail to present the whole truth as it would be disclosed under cross-examination. The records which would throw light upon the case are in the Territorial land offices, not readily accessible to the Congressional committee, to which claimants only present certified copies of such portions as will benefit their side of the case. And finally, Congress, charged with the grave duties of legislating for the political and material interests of this great nation, has not the time to go into the investigation of matters involving interests of a purely personal character.

To the suggestion of a special committee to sit at convenient times and places to hear and dispose of these claims, equally vigorous objections are presented, and it is urged that the experience obtained through the California commission is of such a character as to make a tribunal of that kind the least advantageous of the methods proposed.

All must agree that it is time that these foreign grant claims were disposed of one way or the other. To say nothing of our obligations under the treaty it is a duty to our own citizens that the cloud which obscures the title to so large a portion of the public domain because of such claims should be removed as soon as possible, and the progress of the country no longer hindered and stayed by the existing uncertainty of land titles. At least, an increase or an indefinite continuance of the troubles growing out of this state of things should be prevented. I think, therefore, that an act of limitations should be recommended

barring all such claims not presented within a stated period. In view of the fact that there are many small claims incident to pueblo grants which on account of their limited areas and the expectation of the claimants that they will not be troubled in their possessions, have not been and will not be presented, the bar should extend only to those involving over a certain area, say 300 or 500 acres. Certainly after the lapse of so long a period no one can justly complain that a statute of repose should be enacted, and if any case of undue hardship arise under the operation of such a statute, which is hardly imaginable, Congress can specially legislate in regard to such case and afford relief as readily as now.

THE PRESERVATION OF PUBLIC TIMBER.

The vital necessity for legislation looking to the preservation of the timber resources of the country becomes more urgent every year. The annual loss to the Government by the destruction of timber by fire alone is estimated at \$7,000,000. To this should be added the more important but secondary loss which follows the destruction of the timber by floods, land-slides, climatic changes of a permanent character, and the violations of the law by depredators upon the timber on public lands.

Under the law outside of the States of California, Oregon, and Nevada, and the Territory of Washington, settlers can not, unless they settle upon "timber land," under the general settlement laws, obtain timber upon the public domain except upon mineral lands. As not one acre in many thousands is known to be mineral, this provision amounts to but little. Heretofore there has been some contrariant practice growing out of the opposite views of those charged with the administration of these interests, the one directed solely to the jealous preservation of the timber resources of the country, and the other recognizing the undeniable necessity of the settlers to have timber for building their homes and for fuel, and the consequent yielding to the necessity of cutting the timber that they deem as essential to them as air and water, whether it be on mineral or non-mineral land.

At the present time settlers in many localities feel themselves compelled to violate the law to obtain timber from the public lands to supply their absolutely necessary wants. Sometimes this is done through the owner of a saw-mill, who then suffers the penalty; for he, too, is unable to lawfully obtain sufficient timber to supply the requirements of his community. The absence of any means by which the community can get its necessary and proper supply of timber leads to general hostility to all action of the Government to prevent depredations on public timber and encourages the most wasteful and wanton destruction of the public forests, which will result, if not speedily stopped, in most disastrous consequences to that part of the public domain. I think legislation is needed which would look to the accomplishment of both these ends; *i. e.*, the preservation of the natural forest lands at the headwaters of navigable rivers, and also a method of putting within the reach of

settlers a legal means of providing them with timber for building their homes, fuel, and other domestic purposes.

I do not here undertake to formulate the details of the scheme suggested. If it were desirable I can do so. It would embrace, with but few changes, the salient features outlined in my last annual report.

PUBLIC-LAND STRIP.

Because of its anomalous condition, this portion of the public domain should receive the prompt attention of Congress. This tract of land is bounded on the east by the Indian Territory, on the north by Kansas and Colorado, on the west by New Mexico, and on the south by Texas. It is a little over 168 miles long from east to west, and a fraction over 34 miles in width from north to south; contains 5,738 square miles, or 3,672,640 acres. Excluded from the boundaries of these States and this Territory, it has always been outside of any political jurisdiction. It is simply a part of the public domain, over which the land laws have not been extended, and within the limits of which no tribunal, civil or criminal, has jurisdiction to protect property or punish crime.

The land within the limits of this strip is said to be fine for both agricultural and grazing purposes, the surface rolling and well watered, whilst valuable coal deposits have been developed in the western portion. Until lately the "strip" was almost entirely fenced in and controlled by a number of foreign cattle companies. But since the breaking up of illegal inclosure and use of the public domain in this manner there has been a great rush of people into this locality.

By the appropriation bill of March 3, 1881 (21 Stat., 451), the sum of \$18,000 was appropriated for "running correction lines, guide meridians, and township lines" therein. The sum thus appropriated was expended as directed and the township lines run, though the amount allowed was scarcely sufficient to complete the lines as directed.

I beg to urge that a special appropriation be made to complete the survey over this tract. An estimate furnished at my request by the surveying division of the Land Office states the amount necessary for the purpose is \$50,000, and I hope it will be granted.

It is further important that Congress should authorize the establishment of a land office within this strip and the lands therein at some central and accessible point, subject to settlement under the homestead laws, with the commutation features eliminated. The Territory should also be placed under some political organization, so that civil and criminal law may be properly administered therein.

The peculiar form and situation of the strip makes the question of its proper disposal a question of some doubt. It is, of course, too small to organize into a separate Territory. Its condition, approximating most nearly to that of New Mexico, naturally suggests that it should be made part of that Territory, subject to its laws and government.

INDIAN AFFAIRS.

I commend to your attentive consideration the operations of the Indian Bureau as set forth in the accompanying report of the Commissioner of Indian Affairs. It shows devoted zeal and energetic efforts in behalf of the present and future interests and happiness of this dependent people. No efforts have been spared to secure to them the quiet and undisturbed enjoyment of their reservations. Prompt measures have been adopted for the removal of trespassers and intruders of all kinds from their midst, when complained of as in any way molesting the peace of their homes, and speedy action has been taken, when necessary, to suppress any disturbing elements among any of the tribes. All just causes of complaint brought to the attention of the Department have received consideration and prompt corrective action in order that they might have such full and peaceful enjoyment of all existing rights and privileges as is consistent with the policy of elevating them to civilization. They have been urged as rapidly as possible in the ways designed to lead them from their condition of helpless, dependent wards of the Government to that of an intelligent, vigorous, and self-supporting people. They have been required, so far as was found practicable, to scatter out upon the best lands of their reservations, build houses, wear the dress of civilized people, engage in some kind of industry, and practice the cultivation of the soil, so that when allotments should be authorized and made they would be able to select the land upon which they lived and had made improvements.

The extent to which success has attended the efforts of Mr. Commissioner Atkins in thus managing the affairs of the Indians is more clearly shown by the statistics of the results of their industrial pursuits during the past year. The present condition of this population may be presented as grouped in three general classes:

The first, or civilized, embracing the five civilized tribes of the Indian Territory and the Six Nations of New York, whose members generally are furthest advanced in manners and morals and in the arts and industries of civilized life, self-supporting, with written constitutions and laws and well-established rules and methods of government; including also many individuals among other tribes, who are fully entitled by reason of intelligence, industry, social habits, and other characteristics of civilization to be enumerated among the civilized portion of the Indian race.

Second, the semi-civilized, comprising tribes and bands among whose members the work of transformation is not so marked, yet who are progressing in order and peace, improving in habits, and engaging in industrial pursuits and largely earning and providing their own support, and yet dependent for their progress upon the direction, control, and guidance of the Government.

The third class are the savages who require constant watchfulness to restrain them from following their savage mode of life, dependent for

food, clothing, and other supplies upon the Government, and controlled by the exhibition of the physical power of the Government, idly lingering upon the reservation, and when not actively opposing and obstructing measures for their advancement yielding a sullen and unwilling response thereto.

The five civilized tribes of the Indian Territory embrace a population of about 64,000, and the Six Nations of New York number 4,962. These being self-sustaining, it is not necessary for the present purpose to introduce any statistics of their industrial operations.

There are also about 19,500 Indians scattered over the public domain and not living on any reservations under charge of Indian agents, therefore no specific information of their industrial pursuits is at hand.

The statistics compiled from the annual reports of the various United States Indian agents to the Commissioner of Indian Affairs represents that of the remaining 173,600 Indians under their supervision, about 53,000 wear citizens' clothes wholly; that 16,477 houses are occupied by them; that about 25,000 can speak English with sufficient intelligence for ordinary conversation; that more than 10,500 of their children are in schools receiving educational and industrial training, for whom 227 schools are in operation, and that over 31,000 families are engaged in industrial pursuits. They have cultivated over 238,000 acres, built over 293,000 rods of fencing, produced over 750,000 bushels of wheat, 950,000 bushels of corn, 402,000 bushels of oats, 68,000 bushels of barley and rye, 514,000 bushels of vegetables, and 83,000 pounds of butter. Besides the above they have gathered for use and sale considerable quantities of wild rice, berries, herbs, furs, fish, and snake root, etc. They have sawed 1,552,079 feet of lumber, cut 74,000 cords of wood, and 102,000 tons of hay. They own over 392,000 horses, 3,000 mules, 113,000 cattle, 46,000 swine, and 1,120,000 sheep. Droughts have seriously affected the yield of their crops the past year.

Whilst these results are generally gratifying, they fall far short of guarantying an early consummation of our policy of a complete Indian civilization. And I can only reiterate the conviction expressed in former reports, that the Indian race has reached a crisis in its history. Surrounded on all sides by the forces of civilization; all the reservations closed in and pressed upon by ever-increasing masses of population, made up of impetuous, daring, and aggressive settlers, miners, ranchmen, and traders; with no possibility of removal to other reservations or of escape into mountain fastnesses, the only alternative presented to the Indian race is absolute extinction or a quick entrance into the pale of American civilization.

INDIANS BECOMING INDIVIDUAL FREEHOLDERS.

The most important measure of legislation ever enacted in this country affecting our Indian affairs is the general allotment law of February 8, 1887. By this law every Indian, of whatever age, may secure

title to a farm, enjoy the protection and benefits of the law, both civil and criminal, of the State or Territory in which he may reside, and be subject to the restraints of those laws. It goes still further. Under the Indian, in accepting the patent for his individual holding of land, takes with it the title to a higher estate, that of a citizen of the United States, entitled to all the privileges and immunities of such citizenship, and yet invested with all the lawful responsibilities of that position.

The statute is practically a general naturalization law for the American Indian, except that it is provided therein that its provisions shall not extend to the territory occupied by the five civilized tribes and some other advanced communities of Indians. In every other respect the door has been opened through which every individual Indian by proper effort may pass from the savage life to the enjoyment of the fruits and privileges of civilization. The first effect of this law is to clear away the legal obstructions which have heretofore hindered the progress of many of the tribes.

The way thus opened, however, will not be without its difficulties, its tedious progress, its slow success, its sufferings, disappointments, and failures. It will be wholly unknown to many of them, and few will be able to pursue the journey alone and unaided. The strongest and most advanced among them are feeble indeed, to step from the tribal customs and habits of the race to the individual ownership of the soil, and the proper use of it; though many are fully persuaded that the conditions and requirements of the general severalty law are favorable for their physical prosperity, moral improvement, and political advancement, they will assume them with much hesitancy and with many misgivings. They will need constant encouragement, advice, and assistance. The pious men and women of the various religious denominations, who, with such great self-sacrifice have devoted themselves to teaching the Christian religion to this race, will find no lack of occasion for continuing to exercise the duties and labors of their humane calling. The philanthropists who have sought by aid and counsel to contribute to the progress and advancement of the race, will have ample field for endeavor in helping the Indians to a proper understanding and appreciation of their new rights and privileges and duties as citizens, and encouraging them in the use of the arts and in the habits and comforts of civilized life.

But whatever difficulties and grievous discouragements may attend the execution of the purposes of this law, it is, in my opinion, the only escape open to these people from the dire alternative of impending extermination.

The argument that this legislation or the measures adopted under it should be postponed until the race by gradual process is morally and intellectually adapted to the condition of civilized society is conclusively answered by the fact that a century of effort to so adapt them has produced nothing in that direction which promises any such fitness

within a century to come. The exigencies of the age will not await another century or even a quarter of a century of such expenditure of effort and time with such incommensurate results.

The law requires that the allotments shall be made jointly by agents specially appointed for that purpose and the agents in charge of the respective reservations. As the appropriation providing for the employment of the special agents to aid in making the allotments did not become available until July last, nothing could be done before that time except by way of gathering information and taking preliminary action incident to preparation for the work. Many reservations have never been surveyed, and the corners and marks of surveys made on others have long since been removed or obliterated.

Under the direction of the President the Department has begun the work of making allotments to such of the following designated Indians as are found competent, ready, and willing to take lands in severalty, viz : To the Indians of the Sioux tribe occupying the Yankton and Lake Traverse Reservation, in Dakota Territory, containing, respectively, 1,776 and 1,496 Indians ; to the Winnebagos, 1,222 in number, on their reservation in Nebraska ; to the Pottawatomies, 306, and to the Absentee Shawnees, about 775, all on the reservation in the Indian Territory ; to the Crows, numbering about 3,000, on their own reservation in Montana Territory ; and to the Indians of eighteen different bands, numbering in all 612, occupying the Siletz Reservation in Oregon.

So much depended upon the wise, cautious, and successful beginning of this important work that more than usual care was exercised in selecting the special agents required for making these allotments, in order to secure persons capable and of good judgment, and, as far as practicable, those who have had experience among the Indian tribes and have a general knowledge of their habits and customs. At the date of this report the work is proceeding quietly and cautiously on the several reservations, under the joint management of the local agents and the special agents appointed to co-operate with them.

The authority of the President has also been given for making allotments to the Indians on the following-named reservations : The L'Anse and Vieux de Sert and the Ontonagon Reservations in Michigan ; the Bad River, Lac de Flambeau, Lac Court Oreilles, Red Cliff, and Fond du Lac Reservations in Minnesota, all occupied by bands of Chippewa Indians of Lake Superior ; the Oneida Reservation in Wisconsin ; the Devil's Lake (Sioux) and the Ponca Reservations in Dakota ; the Quapaw, Shawnee, Seneca, Wyandotte, Ottawa, and Modoc Reservations in the Indian Territory, all under the supervision of the Quapaw Agency ; the Kiowa, Comanche, and Wichita Reservation in Indian Territory ; the Jicarilla Apache Reservations in New Mexico ; the San Xavier (Papago) and Salt River Reservations in Arizona, under charge of the Pima and Maricopa Agency ; the Lapwai Reservation occupied by Nez Perce In-

dians in Idaho Territory, and the Muckleshoot Reservation in Washington Territory.

Upon a number of these reservations, and also upon the Warm Springs and Grande Ronde Reservations in Oregon, surveys are necessary to be made before the lands can be allotted. This preliminary work has already been ordered and is now being executed. If satisfactory progress in allotting lands continues to be made on the reservations where work is now in progress, the Department will be ready on or before the beginning of the next fiscal year to push forward the work on nearly all of the reservations above named. Sufficient funds for the purpose should be appropriated, so that such number of special agents as shall be required may be employed.

On other reservations it will be necessary to construct means for conveying water for irrigating the soil. If such facilities—at least the main canals and ditches—are not provided the Indians will be able to do little or nothing in cultivating the soil, and no useful purpose will be accomplished in allotting such lands to them. Such work as the limited means provided for irrigating Indian lands will permit has been begun on several of the reservations. Liberal appropriations should be made by Congress for irrigation on the reservations requiring it, some of which can only be made productive for agricultural or grazing purposes under management more wisely conducted than can be expected of the Indians, who have perhaps exchanged or surrendered better lands for them, not always as a matter of intelligent choice.

The aim has been to proceed with the work of allotting lands on those reservations where the Indians have made the greatest progress and where their disposition and general conditions promise success in this important movement. Many of the tribes and bands, as such, are not favorably disposed to the provisions of the law, but among them all are an appreciable number of individuals ready to take their lands in severalty. The benefits of the law should not be withheld from them. They will be allowed to take allotments and accept the means and instrumentalities afforded for their material prosperity and social elevation. It is expected that their example will encourage and lead others to do likewise.

It will not be difficult to allot lands to many of the Indians, but to locate and settle them upon their respective allotments and to attach and hold them each to his own homestead is a work that will not be so easily accomplished. For the present, care will be taken that the provisions of the law will not be forced upon any unwilling Indians; but even those who are hostile to its provisions should be made, by kind, gentle, but very firm treatment, to learn that they must not continue to stand in the way of the accomplishment of the purposes of the law.

Many of the tribes have no funds to their credit and no money annually accruing to them under the treaties. They have no estate except such as they have upon the reservation on which they reside. Such

they as is provided by Congress for the support of this class of Indians is a gratuity. The more helpless and destitute provided for in this way receive barely sufficient to prevent extreme suffering and starvation. It is very difficult to adopt a measure which will provide them with simple food and clothing without, at the same time encouraging their disposition to rely upon the Government alone for their support and to make no exertion to improve their condition. The service should be conducted as to secure annually a material reduction of the estimates for funds to be used in feeding and clothing our Indian population.

INDIAN SCHOOLS.

The report of the Commissioner of Indian Affairs, and that of the Superintendent of Indian schools, and the statistical exhibits accompanying them, show that there are about 40,000 children of school-age, from six to sixteen years, among that portion of Indian population for whose benefit the appropriations for Indian educational purposes, as far as they will go, are sought to be expended. Schools for these to the number of 227 have been provided, with capacity for accommodating about 13,766 pupils.

These schools are classified as follows: 8 Industrial training schools, provided for by special appropriations; 68 boarding-schools, and 90 day schools, managed directly by the Indian Bureau, and 61 schools managed under contracts with religious societies, of which 41 are boarding-schools and 20 are day schools. The total number of scholars enrolled in these schools during the year is 14,333. The average attendance maintained was 10,520; the total expenditure for the same time for all purposes in connection with these schools was about \$1,170,000.

By a statement of Indian school statistics from 1878 to 1887, inclusive—which will be found in the report of the Indian school superintendent—it appears that ten years ago there were 137 schools of all kinds provided by the Government for the Indians, with an average attendance of about 3,500, maintained at a cost of nearly \$196,000. The same statement shows that in 1884 there were 162 schools, having an average attendance of about 6,100, for which about \$650,000 was expended.

These statistics exhibit a gratifying improvement in the Indian school service, and show that general interest in the cause of education has increased and is growing among the Indians.

I have no pleasure in contemplating or in stating any unpromising features of our work among the Indians; but I am convinced that if for their transition from the old to the better and more systematic life, we continue to depend so fully upon the powers of attraction, our Government will continue to be troubled with the Indian problem for an indefinite period.

I am persuaded that the question of compulsory education of all Indian youth of the tribes and bands under the care of the General Gov-

ernment is worthy of early and serious consideration. Any movement in this direction should have the full warrant of the law, and the methods prescribed should be wisely adopted and as nearly uniform as practicable, and should be kindly and judiciously, but firmly, enforced.

The appropriations for Indian educational purposes should be sufficient to enable the Government to discharge fully not only its treaty obligations with the Indians, but also its moral obligations for proper training, mentally, physically, and morally, all of the youth among them, to the end that they may all become self-supporting and useful citizens.

It is essential that the various schools should be visited annually by the Indian school superintendent, so far as practicable, in order that he may investigate and report to the Department as to their management with the view of correcting any existing abuses and bringing the whole school service to a well-ordered and more uniform system. It will require \$2,000 to enable him to properly and efficiently perform the duties of his important position.

EDUCATION OF INDIANS IN ALASKA.

I concur in the suggestions of the Commissioner of Indian Affairs for consolidation of the usual appropriation heretofore made "for support of education of Indian pupils of both sexes at industrial schools in Alaska" with the general appropriation for the educational interests of that Territory, and that the whole be placed under the management of the Bureau of Education in developing the public-school system which that Bureau has undertaken to establish there for the benefit of all the people of Alaska.

THE FIVE CIVILIZED TRIBES.

The five civilized tribes of the Indian Territory represent that they are seriously embarrassed in the development of the coal and other mineral resources of their lands. The Cherokees, Chickasaws, and Choctaws, and the Creeks have patents for their lands, under which the United States courts have held, in a case involving the Cherokee lands, that all the estate is in the Indian Nation, whose title is a "base, qualified, or determinable fee, with only *the possibility of reversion*, and not the right of reversion in the United States." (U. S. v. Reese, 5 Dillon, 405.)

These tribes are secured by treaties "so far as may be compatible with the Constitution of the United States and the laws made in pursuance thereof, regulating trade and intercourse with the Indian tribes," "in the unrestricted right of self-government and full jurisdiction over persons and property within their respective limits," excepting persons, with their property, not citizens of the tribes.

Under the law (sec. 2103, Rev. Stats.) regulating the making of agreements with Indians by citizens of the United States, certain contracts

or mining leases made by the Choctaw Indians with a corporation of non-citizens of the tribe for mining coal, were presented, which were held by the Attorney-General to be "not such as may properly receive the approval of the Department of the Interior in view of the inhibition against the making of leases, etc., of Indian lands contained in section 2116, Revised Statutes."

As the development of the coal and other resources of the land occupied by these tribes will not only contribute to their benefit, but also to that of the surrounding country, I think such modification should be made of existing laws as will permit them to contract for mining coal, etc., under such proper restrictions and limitations as Congress may deem advisable.

The arrangement made by the Cherokee Live Stock Association in October, 1883, for the occupation of the "Cherokee Outlet," containing about 6,000,000 acres, for grazing purposes for the period of five years, at \$100,000 per annum, will expire in October, 1888. Upon information which recently came to the notice of this Department that this association contemplates negotiations with the Cherokee authorities for a release of those lands, I directed that the said association be informed that any so-called lease or other arrangement into which they or any other parties may enter with the Cherokee Nation for the occupation of the Cherokee Outlet with their cattle for grazing purposes or otherwise, will be subject to cancellation or discontinuance by the Department at any time, whenever such action shall be considered for the best interests of the Indians, or for any other reasons which the Department may deem sufficient, and that it will be subject to whatever legislation Congress may enact regarding that portion of the Cherokee country, as well as any general legislation that may be had affecting the occupation of Indian lands for grazing or other purposes.

The Cherokees and some other tribes are specially named in the general allotment act of February 8, 1887, as excepted from the operation of its provisions. These excepted tribes have large surplus lands, and a number of them have existing arrangements for the privilege of grazing cattle thereon, for which the Attorney-General holds there is no warrant of law. The occupation of these lands by white men with their cattle under so-called leases for grazing purposes, if of any present benefit to the Indians, is not conducive to their future well-being, nor in any way promotive of the general policy of localization of the individuals of the tribes upon separate allotments of lands. It is found that the exemption of certain tribes from the operations of a law to which the large body of Indians is made subject, is by no means helpful to the application and enforcement of its provisions to those not so favored. Congress should set its seal of approval or disapproval upon the occupation of Indian lands by individuals and associations of white men for grazing purposes, by some positive and definite enactment

which will relieve this Department from all doubt as to the intention of the law-making power on the subject.

Attention is invited to the recommendations and suggestions of the Commissioner of Indian Affairs, urging legislation for the establishment of a United States court with civil and criminal jurisdiction over both Indians and white people residing in the Indian Territory; also to his statements concerning persons who have been living and are yet within the territory of the five civilized tribes, especially among the Cherokees, under claims to citizenship among those nations, and his views as to the necessity for some legislation for adjusting their rights and interests.

Another important subject presented in his report for consideration is that of the freedmen in the Chickasaw Nation. The matters involved are of great importance, and I refer to the report itself for full information thereon.

In the fourth article of the treaty of 1852 with the Chickasaws (10 Stat., 974) provision is made for the Secretary of the Interior to adjudicate, upon the principles of law and equity, the claim of the Chickasaws growing out of alleged mismanagement and disbursement of their funds by the Government, under treaties of 1832 and 1834, whereby they were subjected to losses and expenses which properly should be borne by the United States. The treaty also provides that the decision of the Secretary of the Interior shall be final and conclusive on all concerned. The claim has not heretofore received final consideration, mainly for the reason that the head of this Department was unable to give to it the time and attention which the intricate details involved required. My predecessor transmitted the case to the Court of Claims in 1883 for consideration and action, in accordance with the provisions of section 2 of the act of March 3, 1883, entitled, "An act to afford assistance and relief to Congress and the Executive Departments in the investigation of claims and damages against the Government." (22 Stat., 485.)

The issues in the claim as finally presented and considered involved items amounting in the aggregate to \$610,041.62.

A duly certified copy of the findings of fact and opinion of the court, filed April 25, 1887, in the case, was transmitted to this Department on May 23, 1887. The following extract therefrom shows the conclusion reached by the court:

We conclude from our examination of the case that the fund of the Chickasaw Nation should be credited with the sum of \$240,164.58. In an action between individuals interest also would be allowed, for the issue presented is one of unauthorized disbursement by a trustee of trust funds expressly stipulated to be held invested in interest-bearing securities. We refrain, however, from expressing any opinion on this subject, as the question must necessarily be taken to the legislative department of the Government, which alone has power to grant relief, which will consider the equities of the case, and which will decide whether it is one wherein the doctrine should be waived that, as the sovereign does no wrong, and is ever ready and willing to pay just debts, the Government pays no interest.

I have adopted the finding and opinion of the Court of Claims on the matter as the decision of the Department in the matter, and will present the same to Congress for the necessary action by that body.

RAILROADS, IRRIGATING CANALS, DITCHES, ETC., AFFECTING INDIAN RESERVATIONS.

Two railroad enterprises—the Washington and Idaho Railway Company and the Spokane and Palouse Railway Company—are seeking a right of way through the Cœur d'Alene Indian Reservation in Idaho Territory. The matters were submitted to Congress at its last session for consideration, and bills S. 3026 and 3041, respectively containing the necessary legislative authority, though passed by the Senate, failed to become laws.

The first-named company subsequently appealed to the Department to be allowed to proceed with the construction of its road under Executive authority. Whatever may be the power of the Executive over the matter, I have not deemed it wise, under the circumstances, to take any favorable action upon the request. The Indians are represented as being favorably disposed to the building of a railroad through their lands that will enable them more conveniently to carry their produce to a good market.

The Department having received information that the Florence Canal Company was about to take water from the Gila River at a point about 12 miles above the town of Florence, Ariz., by means of an irrigating canal, in such quantities as would do great injury to the Indians occupying the Pima and Maricopa Reservation, through which the Gila River flows, and that the canal would practically destroy the farming interests of the Indians by depriving them of necessary water for irrigating purposes from the only procurable source, the Attorney-General was requested to instruct the proper United States attorney to take steps to protect the rights and interests of the Indians.

On the 15th July last the canal company appealed to this Department to have the United States attorney instructed not to apply for an injunction until reasonable time is allowed the company to enter into stipulations on the subject.

The management of the matter having been intrusted to the United States attorney, it was thought best not to interfere with his proceedings, but to defer action until a report should be made by him giving his views and recommendations on any stipulations or arrangements proposed by the company.

Application was made early in 1887, on behalf of persons interested in mining operations in Idaho Territory, for permission to have a ditch constructed at their expense for taking water from the Lemhi River through the Lemhi Indian Reservation, the Indians residing thereon to be employed in cutting the ditch, and to have all the water needed for

irrigating their farms, the surplus, after passing the limits of the reservation, to be used for the mining interests of the promoters of the project. The matter was laid before the honorable Attorney-General, who held that Congress alone had the right to grant such privileges.

Following this opinion, an application for permission to construct a dam for mill purposes across Choteau Creek, which forms the eastern boundary of the Yankton Indian Reservation, was denied, inasmuch as the western abutment of the dam would be upon the reservation, and a small area of the land would be overflowed by its construction. Notwithstanding, it was reported that the Indians were favorable to the improvement, and that it would be of great benefit to them.

The two railroads heretofore constructed through the Fort Hall Indian Reservation in Idaho Territory cross each other at a point designated as Pocatello Station, on the reservation, where quite a large and constantly-increasing settlement has grown up, consisting, it is reported, mainly of the employés, with their families, of the railroad companies, required for their business traffic at that point. The limited area of the Pocatello Station is reported to have been long since fully occupied, and as it is situated wholly within the reservation, the lands of the Indians have been to a large extent encroached upon for dwellings and other like purposes. Measures which, however, failed to receive final action were presented to the last Congress for authority to negotiate with the Indians for relinquishment to the United States of additional lands to accommodate the present growing necessities of this place, and also for the lands used as right of way and station grounds by the Utah Northern Railway Company, whose line occupies 2,126 acres within the reservation, for which they have never made any compensation to the Indians.

In view of the embarrassing situation in which these matters were left by the failure of action upon the measures presented to Congress, the Department found it expedient and necessary, through competent officers, an inspector of the Indian service and the local agent, to have the matters fully examined, the wishes of the Indians ascertained, and such action by them secured as would enable the Department to present the drafts of necessary legislation for the final action of Congress at its approaching session.

Their report shows that the Indians consented to relinquish to the United States 1,840 acres for additional lands for Pocatello Station, to be surveyed, laid off into blocks and lots as a town site, and sold at public auction to the highest bidders, or otherwise, as Congress may direct, with favorable stipulations as to use of the proceeds for their benefit.

For the land occupied and used by the Utah Northern Railroad Company restricted to specified limits, according to map and plats of definite location to be hereafter filed, the Indians stipulate that \$8 per acre shall be paid to the Secretary of the Interior for their benefit.

These matters will be presented to Congress at an early day, and it is hoped that they will receive speedy and final action.

Mention of other matters of importance in connection with the construction, etc., of railroads upon Indian reservations will be found in the report of the Commissioner of Indian Affairs.

FINANCIAL LIABILITIES OF THE UNITED STATES TO THE INDIAN TRIBES.

The liabilities of the United States to Indian tribes under treaty stipulations, taking as the basis, where no specific sums are stated in the treaties, the amounts appropriated last year, are as follows: Permanent annuities, \$349,251.98; temporary annuities for specific periods, \$5,871,666.62; temporary annuities payable at the pleasure of Congress or the President, \$1,178,010; total, \$7,398,928.60.

There was on deposit in the Treasury on November 1, 1886, of the proceeds of sales of Indian lands, the sum of \$7,698,334.19. From the same source \$1,642,815.91 were received during the year ending November 1, 1887, making a total of \$9,341,150.10. Disbursements were made from this fund during the same period to the amount of \$246,688.27, leaving a balance to that account on November 1, 1887, of \$9,094,461.83, of which \$8,922,188.73 bear interest in lieu of investment, the remainder, \$172,273.10, being available for expenditure for benefit of the Indian tribes to whose credit it stands.

The funds belonging to Indian tribes which remain invested in State stocks and other securities held by the Treasurer of the United States as custodian, amount to \$1,798,016.83½. The additional sum of \$84,000 is carried as invested in bonds abstracted. The interest on the invested funds is paid regularly only on \$280,000 bonds of the United States issue to the Union Pacific Railroad, and \$8,350.17 Maryland State stocks. On all of the balance, \$1,593,666.66½, except \$1,000 represented by an abstracted bond, Indiana stocks, interest is annually appropriated by Congress to the amount of \$94,940. During the past fiscal year the United States has been reimbursed to the extent of \$162,870 on account of such appropriations, as follows: By \$3,330 withheld by the Treasury from payments due the State of Louisiana; \$6,000 paid by the North Carolina Railroad Company on certain North Carolina State stocks; and \$153,540 paid by the Nashville and Chattanooga Railroad Company, being unpaid interest on \$512,000 Tennessee stocks already redeemed.

Portions of the State stocks held have matured, but remain unpaid as follows: Virginia, \$1,000; North Carolina, \$191,000; South Carolina, \$125,000; Florida, \$132,000; Tennessee, \$210,666.66½; total, \$659,666.66½.

NORTH CAROLINA BONDS.

The authorities of the State of North Carolina have heretofore submitted a proposition for exchange of the old bonds of that State for

es of claims to large areas of territory, the quantities are rather indefinite and undefined. For the claims covered by the negotiations, the total involved amounts to about \$5,300,000. This involves Indians growing out of construction of dams and waters of the Mississippi River.

law under which the work of the Commission has designates the Indians with whom the negotiations are held; and it also provides that "no agreement made until ratified by Congress." Such of them as have not before Congress will receive early consideration and submission to that body.

A, WALLA WALLA, AND CAYUSE INDIANS.

appointed under the act of March 3, 1885, for the purpose, has made its report, showing that the Umatilla and Cayuse Indians of Oregon have consented to the law for diminishing the area of their reservation, ceding, and for sale of their surplus lands for their benefit; a census of the Indians, reporting the whole number 845 were entitled to allotments, the remaining 1,000 of Indians, heads of families, and not entitled to allotments determined and set apart a diminished reservation of 119,864 acres, for agricultural, pasture, timber, and lands for the Indians.

It is necessary to be made for the purposes of making the allotment of the surplus lands are now in progress.

THE APACHES OF ARIZONA.

quiet which prevailed among the Indians of Arizona during the year, and then by a small number of San Carlos Agency, who, as the result of internal dissension at the White Mountain Reservation, and created by their contact among the white population near by. The prompt action of the military forced them to speedily return to their homes where the lawless ones are reported to have been arrested. It will no doubt result in punishment and discipline.

It has now under consideration a report setting out the plan of Miles, commanding the Department of Arizona, for the removal of several bands of the Apache Indians now on the San Carlos Reservation to other points in the Territory. This is the best for the Indians and the peace of the Territory. The plan for such occupation is the Verde military reservation, one of the most populous and

those of a new issue, under laws for adjustment of the State debt, upon terms that the Department did not feel authorized to accept.

More recently the authorities of that State have offered the amount of the principal with interest to date of maturity for \$147,000 of her stock. At the same time the Department had before it an offer for the same stock from a private individual, to pay the principal with interest thereon not only to maturity of bonds but to date of their delivery to him.

Not being fully satisfied as to the best course to pursue, and as the market value of that special block of bonds seemed to be improving rather than otherwise, I have delayed action on the matter with a view of bringing the subject in this way to the attention of Congress, for such legislation as that body in its wisdom may see proper to enact. An act authorizing either the Secretary of the Interior or the Secretary of the Treasury, who would perhaps be the more proper person, to make such negotiations as would be deemed best under all of the circumstances would be the wisest solution of the matter.

INDIAN FISHING PRIVILEGES.

In nine or more treaties made in 1855-'56 with the various tribes in the extreme northwestern part of the country it is provided that "the right of taking fish at usual and accustomed grounds and stations is further secured to said Indians in common with all citizens of the Territory, and of erecting temporary houses for the purpose of curing" (12 Stat., 927-975.)

Many and serious complaints have come to the Department that the right of taking fish at usual and accustomed grounds and stations along the Columbia River is denied to the Indians. Investigation has disclosed the fact that settlers have entered and possessed the tracts comprising the usual fishing grounds and stations under the land laws of the United States, and refuse to allow the Indians to come upon them in the pursuit of their usual means of support. In behalf of the Yakima Indians resort was had to the supreme court of Washington Territory in case of United States and others *v.* Taylor, wherein the court, in decision rendered on January 25, 1887, held that the land laws of the United States "simply authorize the appropriation by the settler of unappropriated lands, and only authorize the extinguishment of the title which the Government holds at the time of the appropriation; and, if the land selected by the settler has at such time any servitude or easement impressed upon it, he takes subject thereto."

This wholesome decision, so eminently just, ought to go far in removing the cause of many complaints from the Yakima Indians, who are mainly self-supporting. If they can not be secured in the enjoyment of their treaty rights and privileges in this respect in any other way, it perhaps would be well for the Government to repossess itself of the portions of land upon which the servitude or easement is impressed.

The situation in this respect of the confederated tribes and bands of Indians of middle Oregon at the Warm Springs Agency is attended with more embarrassing difficulties. They were among those to whom were reserved and secured by treaty of 1855 the fishery rights and privileges, but a subsequent treaty made with them in 1865 contains a clause relinquishing them for a consideration of \$3,500. The Indians claim that it was never intended by them to part wholly with such valuable rights and privileges for such an inadequate sum, but that the enjoyment thereof should be regulated by permits or passes, to be issued by their agent, to prevent them from being taken for hostiles when off of their reservation. In support of their claim they point to the third article of the treaty, which provides for such passes in cases when it is necessary for them to go without the reservation.

General Gibbon, commanding department of the Columbia, has given this matter some consideration, and thinks that the view given by the Indians is correct; he also reports that in being debarred from procuring their usual supply of salmon, and with short crops this year, there will be suffering among them unless they are furnished with supplies by the Department; and he suggests as a remedy that Congress be asked to appropriate a yearly sum for a term of years to be expended in the purchase of cured salmon for issue to these Indians as an indemnity for the supply unjustly cut off from them.

The Klamath River Indians occupy a reservation in California established by Executive order of November 16, 1855. It embraces a strip of country 1 mile in width on each side of the Klamath River, for such distance from the Pacific Ocean as to include 25,000 acres of land. The fisheries on the river have been the principal means of support for these Indians.

The State of California having declared the Klamath River to be navigable from its mouth to a point some distance above the reservation, certain white men have engaged in fishing on that stream within the boundaries of the reservation. This the Indians regard as an invasion of their rights, and it has naturally made them uneasy. The honorable Attorney-General, to whom application was made for an opinion as to the power of the Government to protect these Indians in the enjoyment of what they claim to be "their fishing privileges" in the Klamath River within the limits of their reserve, holds that—

The Klamath River being a navigable stream, the public have the right to fish there and use it in any other way that does not amount to an interruption or interference with interstate or foreign commerce or navigation, or a violation of some law of the State of California, and that so long as the acts of persons resorting to these waters to take fish fall short of invading the right of Congress to regulate commerce with foreign nations or among the several States, no case for federal interference can be said to exist.

The fishery rights and privileges of these Indians is a matter of serious concern to them. The improved means and appliances employed by white men for taking fish from the rivers place the Indians, who

very generally adhere to their primitive methods, at great disadvantage in pursuing this industry. It is the source from which many of the Pacific coast Indians procure their principal article of daily subsistence. Large quantities are cured by them for winter use. It is very important that they be protected from invasion or obstruction of their rights and privileges, whether they be proprietary on existing reservations reserved and secured by treaties to be enjoyed in common with others within territory ceded by them to the Government, or within the public domain. Without such protection they will be practically robbed of the main article of their food supply by being shut out from the sources whence they have heretofore obtained it, and without which they are likely to be impoverished and become largely a charge upon the Treasury of the United States for their support.

NEGOTIATIONS WITH INDIANS.

The agreements negotiated by the Commission appointed for that purpose, under the provisions of the act providing therefor, of May 15, 1886 (24 Stat., 44), with the various tribes and bands therein mentioned, were submitted to Congress at its last session, and will be found in Senate Ex. Docs. Nos. 115 and 30, respectively, Forty-ninth Congress, second session.

Agreements were also negotiated by the Commission with the Indians belonging to the Fort Peck, the Fort Belknap, and the Blackfeet Agencies, in Northern Montana, for cession of about 17,500,000 acres of territory, leaving about 4,151,000 acres to be divided into three separate reservations of sufficient area to meet the wants of the Indians now inhabiting that portion of the large reservation in Northern Montana. The compensation agreed upon for the land proposed to be ceded by this agreement is \$4,300,000, to be appropriated in ten annual installments, as follows: \$165,000 for the Indians of the Fort Peck Agency, \$115,000 for those of the Fort Belknap Agency, and \$150,000 for those of the Fort Berthold Agency. It is also agreed that these installments of money, amounting annually to \$430,000, shall be expended for cows and other stock, goods, clothing, subsistence, and in such other manner as will promote their civilization and future well-being.

The Commission also negotiated agreements with the Upper and Middle bands of Spokane and the Pend d'Oreilles Indians, in Washington Territory, with the Cœur d'Alene Indians, the Flathead, Pend d'Oreilles, and Kootenai Indians, occupying the Jocko Reservation in Montana, all of which are now under consideration by the Commissioner of Indian Affairs, in whose report will be found mention of the general provisions thereof.

As a summary of the labors of the Commission it is estimated that the agreements negotiated provide for cession to the United States by the Indians of nearly 22,000,000 acres of territory, besides the surren-

by certain tribes of claims to large areas of territory, the quantities and limits of which are rather indefinite and undefined. For the lands ceded and the claims covered by the negotiations, the total money obligation involved amounts to about \$5,300,000. This includes the claims of Indians growing out of construction of dams and reservoirs at headwaters of the Mississippi River.

The provision of law under which the work of the Commission has been prosecuted designates the Indians with whom the negotiations were to be conducted; and it also provides that "no agreement made shall take effect until ratified by Congress." Such of them as have not already been laid before Congress will receive early consideration and be presented for submission to that body.

UMATILLA, WALLA WALLA, AND CAYUSE INDIANS.

The Commission appointed under the act of March 3, 1885, for the purposes therein required, has made its report, showing that the Umatilla, Walla Walla, and Cayuse Indians of Oregon have consented to the provisions of the law for diminishing the area of their reservation, taking lands in severalty, and for sale of their surplus lands for their benefit. They took a census of the Indians, reporting the whole number to be 986, of whom 845 were entitled to allotments, the remaining 141 being the wives of Indians, heads of families, and not entitled to allotments. They determined and set apart a diminished reservation embracing an area of 119,864 acres, for agricultural, pasture, timber, and school-farm lands for the Indians.

The surveys necessary to be made for the purposes of making the allotments and for sale of the surplus lands are now in progress.

THE APACHES OF ARIZONA.

The very general quiet which prevailed among the Indians of Arizona was broken only once during the year, and then by a small number of those under the San Carlos Agency, who, as the result of internal troubles, left the White Mountain Reservation, and created by their conduct some alarm among the white population near by. The prompt and effective movement of the military forced them to speedily return to the reservation, where the lawless ones are reported to have been arrested for trial, which will no doubt result in punishment and discipline or their bad behavior.

This Department has now under consideration a report setting out the views of General Miles, commanding the Department of Arizona, favoring the removal of several bands of the Apache Indians now on the White Mountain Reservation to other points in the Territory. This he thinks will be best for the Indians and the peace of the Territory. One of the points designated for such occupation is the Verde military reservation, said to be in the midst of one of the most populous and

prosperous agricultural and grazing districts in the Territory. Strong and vigorous protests have been presented by many of the settlers and on their behalf by the governor of the Territory against the proposed transfer and location in their midst of from 1,000 to 1,200 uncivilized Indians. The Indians were gathered upon their present reservation at great expense, and in pursuance of a policy then considered best for their proper management and advancement. To again scatter the various bands to different localities involves the establishment of several more agencies, the maintenance of which would no doubt considerably increase the expenditure of the Indian service in that locality. In view of these things, I have not felt satisfied to take any final action upon the proposition until I could gather such information through official reports from the representatives of this Department as will enable me to fully consider every phase of the subject.

Those Apaches, brought from Arizona and held for a time at Fort Marion, Fla., with the exception of children of suitable age sent to the Carlisle Training School, have during the year been removed by the War Department to the more suitable and commodious military reservation at Mount Vernon Barracks, Ala., where they, and also those in confinement at Fort Pickens, Fla., are reported to be in general good health, contented, and well disposed. Ramoun, a Chiricahua, among those at Mount Vernon, because of bad conduct, the result of drinking whisky, was, with his wife, transferred to Fort Pickens.

NAVAJO TROUBLES ON THE SAN JUAN RIVER.

The presence of a few settlers who had located immediately south of the San Juan River, in New Mexico, remaining there after the land had been again made a part of the Navajo Reservation by Executive order of April 24, 1886, continued to cause some disquiet among the Indians in that locality. Their removal was suggested by the Indian Bureau and repeatedly urged by the local military commander, as a measure necessary for the preservation of good order. As inchoate rights of settlers had attached to the lands upon which they had located, the Department declined to sanction any proceedings for their removal until it was again strongly urged by Colonel Grierson as the only safe, proper, and effective measure by which peace could be permanently maintained and security given to life and property in that locality.

That officer recently reported that the settlers had been peaceably removed and the Navajoes quietly placed in possession of the lands occupied by them.

The settlers who in good faith located and made valuable improvements upon the lands and who have been compelled for the public good to abandon them, should be fully indemnified for the losses thus sustained. To do this, however, it will be necessary for Congress to grant the authority and make a sufficient appropriation for the purpose.

UTE INDIANS UNDER COLOROW.

A small band of Ute Indians, numbering about sixty souls, under Colorow, with Chepeta, the widow of Ouray, a former friendly Ute chief, have been for some time past roaming in the northwestern part of Colorado and pasturing their flocks and herds on that portion of the public domain formerly the home of the tribe, and for which Colorow and his followers have a strong attachment. Though these Indians were peaceably disposed their presence there was reported to be the cause of some annoyance to settlers, but more particularly to the owners of stock cattle, and those employed with the large flocks and herds also grazing upon these public lands.

The agent for the Ute Indians was instructed to require the absent Indians to go to and remain upon the reservation; and in order that want of knowledge of the location of the dividing line between the reservation in Utah Territory and the State of Colorado might not be an excuse for again leaving their reserve, the Secretary of War was requested to detail a competent military officer to plainly mark the boundary.

While these matters were receiving attention and the necessary correspondence, there arose—in August last—considerable excitement in the vicinity of the town of Meeker, in Garfield County, Colo. The United States marshal telegraphed from Denver on the 17th that the Ute Indians were on the war path, and requested that the War Department be asked to send troops. Senator Teller, my immediate predecessor in this Department, telegraphed from the same point on the 29th that the “Ouray Ute Indians in Colorado ought to be compelled to return to their reservation. If they do not there will be trouble.” In the mean time it was published in the press that the governor of Colorado had ordered the militia of the State to the scene of trouble, and that he had also called upon General Crook, commanding a military department, for the aid of United States troops. No other or regular application for such aid had come to the knowledge of this Department, which, however, communicated such information as it had to the Secretary of War on August 20, and requested that he have the troops, if furnished, while in the locality use all proper means to induce the Indians to go to and remain upon their reservation.

A request for troops, telegraphed on 24th of August to this Department by Governor Adams, was received on the following day, and he was immediately informed in reply that the President did not consider that any case had been presented under the Constitution and laws justifying the employment of United States troops in Colorado; the belief was also expressed that Colorow and his followers could be induced to return to their reservation if the hostile demonstrations against him were suspended, and he assured against attack; and further, that such line of action, if concurred in by the governor, would be entered upon by the Government.

On the same day Governor Adams telegraphed to the Department that Colorow had signified his desire for a conference, and for that purpose he would start that night for Garfield County, expressing his desire to get the Indians out of the State peaceably, and asking that the officers at Fort Du Chesne be ordered to the scene of trouble to meet him. Upon the belief that this dispatch, received on the following day, indicated the adoption of the line of action suggested in the telegram sent to the governor, he was at once informed by wire that, by direction of the President, Agent Byrnes and General Crook would be instructed to meet and confer with him in reference to Colorow's peaceable return to the reservation. The officers named were instructed accordingly.

Upon receipt of official information of the seizure by Major Leslie of 300 head of Indian horses, which he had corralled at Rangely, to be held until certain Indians were delivered to him, Acting Secretary Muldrow, on August 30, telegraphed the governor, by direction of the President, the request that he would take all proper measures to deliver the horses to Agent Byrnes, who was directed to take charge of the same as soon as arrangements for their delivery had been made. The governor was also asked to co-operate with the agent in collecting the sheep, goats, and other property of the Indians, with the view of restoring the same to them on the reservation. The agent was instructed how to proceed in these matters, and was also directed to remove from the reservation, in pursuance of statute, all persons found therein contrary to law, and to prevent any unlawful encroachments or entries thereon for any purpose, and to call on the military for aid if necessary. He was also informed that the civil authorities of Colorado, and those acting with them, must proceed in the manner provided by law for the enforcement of any process issued by State authority, and that the Government would, if the emergency arose, assist them in orderly and lawful efforts to enforce such process.

I condense the following as the substance of the official reports made on this matter by General George Crook, and of the United States Indian agent for the Uintah and Ouray (consolidated) Agency: The origin of the excitement was the attempt of the State authorities to enforce the State game and other laws against the Indians, who were surprised and alarmed by the methods employed by a game warden and the sheriff to arrest several of their number under State process for violation of its laws. The Indians, alarmed and evading arrest, were pursued by the sheriff with his posse, subsequently joined and supported by the State militia. Such a procedure was well calculated to precipitate not only resistance, but an outbreak by uncivilized Indians ignorant of the laws governing civilized communities, and wholly unacquainted with the methods employed for enforcing them. They were able to comprehend neither the meaning of a warrant nor the authority of the sheriff. Worse than all, the Indians, who had acted entirely on the defensive all the time, avoiding hostilities, and who in a parley had

given assurances that they were going to their reservation as fast as possible in obedience to the instructions of their agent, and had received assurances from those pursuing them that they would not be molested, were attacked in their camp near the border of their reservation while they were quietly cooking breakfast in the midst of their wives and children, were driven from their supplies of dried meat, robes, and peltries, their horses, cattle, sheep, and goats were appropriated or scattered, and only a small portion of them have since been restored to the Indians.

The itemized claims prepared upon statements and evidence of these Indians at the agency, and recently received from one of the United States Indian inspectors, for property which they were forced to abandon or which was taken from them while fleeing to the reservation, and which has not been restored to them, aggregate the sum of \$32,050.25.

The casualties, all told, so far as the Indians are concerned, were five men, women, and children killed, and seven seriously wounded.

THE JICARILLA APACHES.

The removal of the Jicarilla Apaches from their reservation in north-western part of the Territory of New Mexico to the Mescalero Apache Reservation in southern part of the same Territory, which took place in 1883, has not proved to be beneficial to either band. The Jicarillas complained that the new location afforded them no advantages for improving their condition, as all land fit for cultivation was already taken or claimed by the prior occupants of the reservation. A few of them in 1885 wandered back to the locality of their former reservation, with the expressed determination to seek individual homes upon the land from which they had been moved. During the next year a larger number followed, and when overtaken by the military to be turned back they begged to be permitted to go where they could make homes for themselves. They were allowed to proceed, and they gathered near Amargo, N. Mex., where a tract of land was withdrawn from the public domain by Executive order of February 11, 1887, with the view of affording them the necessary protection, and aiding them, as far as practicable, in securing individual homesteads in the locality of their own selection. The remainder of the band has since gone upon this new reservation. The lands are being surveyed, and as soon as this necessary work is completed allotments will be made to the Indians under the general law providing therefor.

MISSION INDIANS IN CALIFORNIA.

Immediately after the close of the last session of Congress, which failed to take final action on the bill pending for relief of the Mission Indians in California, instructions were given for removal of all trespassers, with their movable property, from the reservation occupied by those Indians. Proper notice and time were given to enable the persons

affected to adjust their affairs. The Department is informed that the removal has been accomplished. The claims of some of these persons classed as intruders are probably entitled to consideration, but no having been provided by Congress for this purpose, and it being imperative on the Department, it was deemed unwise to further delay the action indicated. Congress will, no doubt, upon proper presentation of the cases, provide for the adjustment of any equitable claims which the ejected parties may have, by reason of their removal from the reservation.

ROUND VALLEY RESERVATION IN CALIFORNIA.

As the bill proposed by the Department and presented to the last Congress for extinguishing all bona fide claims of white men to land within the Round Valley Indian Reservation in California, with the view of clearing it of all intruders and other hinderance to allotment of the land in severalty to the Indians, for whom it was created, failed to become a law, steps were immediately taken to do whatever might be found in the power of the executive branch of the Government, to remove, as far as possible, the evils complained of; and the aid of the Department of Justice and of the War Department by the military force was invoked to secure obedience to the orders of this Department, for persons unlawfully upon the reservation to remove therefrom with their property, and for those having a legal status thereon to confine themselves within the limits of the land to which they were entitled.

While preparing this report information is received by telegraph that the agent has been required by the superior court of Sonoma County, California, to appear and show cause why he should not be restrained from executing the order for removal of certain persons from the reservation.

It is not at this time known how far the measures adopted by this Department will succeed in clearing the reservation of those who have no legal right to remain within its limits. Some action by Congress on the subject, however, is required, and the foregoing report shows clearly the character of legislation needed and the urgent necessity therefor.

CHEROKEES OF NORTH CAROLINA.

The treaty of 1835 with the Cherokee Indians, providing for their removal west of the Mississippi, allowed those desiring to remain and become citizens of the States in which they resided, to do so. A portion of those who elected to remain are located in the western part of North Carolina. They have some land interest and also a small sum of money held by the Government, the expenditure of which is by law confined to their educational and agricultural interests.

By an act of July 27, 1868, it is provided—

That hereafter the Secretary of the Interior shall cause the Commissioner of Indian Affairs to take the same supervisory charge of the Eastern or North Carolina Cherokees as of other tribes of Indians.

An agent provided for by law resides among them. They asserted claim to an interest in the lands and trust funds of the Cherokee Nation, which was referred by Congress to the Court of Claims, from which it was appealed to the Supreme Court of the United States, where, in a decision adverse to them, the court held that—

The number that remained was between 1,100 and 1,200. They were without organization or a collective name. They ceased to be a part of the Cherokee Nation, and henceforth they became citizens of and were subject to the laws of the State in which they resided. * * * The Cherokees of North Carolina dissolved their connection with the nation when they refused to accompany the body of it on its removal, and they have had no separate political organization since. Whatever union they have had among themselves has been merely a social or business one. It was formed in 1868, at the suggestion of an officer of the Indian Office, for the purpose of enabling them to transact business with the Government with greater convenience. Although the articles are drawn in the form of a constitution for a separate civil government, they have never been recognized as a separate nation by the United States; no treaty has been made with them; they can pass no laws; they are citizens of that State and bound by its laws. (U. S. Rep., 117, pages 303 and 309.)

The Assistant Attorney-General for this Department, in a report of April 13, 1887, reviewing the treaties, laws, and decisions affecting these Indians, remarked as follows :

While the above quoted decision of the United States Supreme Court does not formally declare unconstitutional said act of Congress, which directs the Secretary of the Interior to "cause the Commissioner of Indian Affairs to take the same supervisory charge of said Eastern Cherokees as of other tribes of Indians," said decision does, nevertheless, seemingly assign to said Indians a legal status wholly incompatible with that in which said act of Congress would place them.

Hitherto this Department in its dealings with said Indians appears to have followed said act of Congress. But I am unable to reconcile either the provisions of said act, or the precedents of the Department, with the aforesaid adjudication of our highest court.

In view of the status of these people, as defined in the decision of the Supreme Court of the United States, it is apparent that very little, if anything, can be done by this Department toward a proper administration of their affairs or regulation of their conduct, and therefore the repeal of the law of 1868, providing for supervisory charge over them by the Commissioner of Indian Affairs, is suggested for the consideration of the Congress, with the view to the discontinuance of the agency now maintained for them. If this is done the balance of the fund, about \$30,000, remaining to their credit should be distributed pro rata among them, or otherwise expended for their benefit as Congress may direct.

They possess some real estate where they now live, the title to which for some time past has been in an unsatisfactory condition. Recent action, however, taken by the Department of Justice gives some promise of a satisfactory adjustment of an award which was confirmed and made the decision of the United States court for the western district of North Carolina, in November, 1874, affirming the right and title of the Indians to the land.

Special reference is made to the report of the Commissioner of Indian Affairs for further and more detailed information regarding these people.

INSPECTION OF THE INDIAN SERVICE.

The condition of the Indians and the affairs of the various agencies, with three exceptions, have been thoroughly investigated by the Indian inspectors during the year. The Colorado River Agency in Arizona, the Hoopa Valley Agency in California, and the Klamath Agency in Oregon could not be reached readily at the time the inspectors ordered there were in the localities. These will be inspected at an early date.

Of the 61 agencies and 11 industrial training-schools not on reservations, 28 were inspected twice, 7 three times, and 1 four times during the year.

The inspectors have made 212 reports, through the means of which the Department has been kept very fully advised of the needs of the service.

METLAKAHTLA INDIANS.

Application was made to this Department in February last, by Rev. William Duncan and Mr. H. S. Wellcome, on behalf of a colony of Indians residing at Metlakahltla, in the Northwest Territory of British Columbia, for the privilege of removing to Alaska, and there taking up lands as a colony of emigrants, upon a reservation to be set aside for them by the Executive, upon which they might secure such rights as are permitted to residents of that Territory. They are represented as self-supporting and well advanced in civilization; but the manner of their treatment has made them dissatisfied with their location.

The matter was carefully considered by this Department and by the Department of Justice, and the conclusion was reached that the power to give these Indians lands in Alaska does not rest in the Executive, and that the relief they ask must be sought at the hands of Congress. From recent information through the public press it is learned that the Indians have commenced to remove to Alaska, and are locating at a point called Port Chester.

FINANCIAL STATEMENT.

Salaries:	
Appropriated	\$93, 770. 68
Expended	90, 986. 64
Balance	2, 784. 04

Statement of expenditures for the Indian service during the fiscal year ended June 30, 1887.

Balance remaining on hand June 30, 1886, of permanent funds appropriated in previous years for fulfillment of treaties and for miscellaneous objects; also of interest on trust funds, and proceeds of sales of Indian lands not bearing interest, and available for expenditure..	\$1, 337, 768. 21
Amount appropriated for the Indian service for the fiscal year ended June 30, 1887, by act of May 15, 1886	5, 561, 262. 84
Amount accrued during said fiscal year on account of trust-fund interest, proceeds of Indian lands not bearing interest and available for expenditure, Indian money, etc	970, 218. 42
Total amount available	7, 869, 249. 47

Amount expended during the fiscal year ended June 30, 1887	\$5,596,324.43
Estimated amount required to pay indebtedness incurred prior to June 30, 1887	400,000.00
	<u>5,996,324.43</u>
Balance on hand June 30, 1887	1,872,925.04

Of this balance the sum of \$1,725,445.28 represents an aggregate of permanent funds for fulfillment of treaties, etc., and available for current fiscal year; the remainder, \$147,479.76, is subject to be carried to the surplus fund as required by law.

PENSIONS.

The report of the Commissioner of Pensions presented herewith, discloses a very satisfactory condition of affairs in the management of that Bureau, and evidences a greatly increased efficiency, and shows a diminished expenditure, *i. e.*, while the payments have increased, and while the volume of work has been greatly enlarged, the expenses thereof have been diminished, clerk-hire has been less, and all the incidental expenses have been decreased, while the number of pensions allowed has been increased. It also appears that the average annual value thereof has been added to.

I desire to call attention particularly to the suggestions of the Commissioner for additional legislation. Conforming to those suggestions will, in my judgment, tend to the harmonious and equitable administration of the laws now governing the granting of pensions, and will remove many of the inconsistencies and incongruities of existing law, and very many of the present causes of complaint.

In addition to the suggestions made by the Commissioner of Pensions, my attention has been called to the fact that, under existing laws, dependent orphan children of deceased soldiers, who may be entitled to pension, can not have such pension continued beyond the age of sixteen, regardless of their physical or mental condition. There are a few instances in which such children are (physically and mentally) utterly incapacitated for earning their own livelihood, and in instances where it is made clearly to appear that the condition of mental imbecility or insanity, or such feebleness of mind or body, exists as to make these children utterly helpless for earning their own livelihood, it seems right that pension should be continued to them for a longer period.

The comparisons instituted in the report of the Commissioner of Pensions with the pension laws and systems of other modern powers tend to show with unmistakable clearness, first, the liberality of the Government of the United States in dealing with its pensioners, far exceeding in general allowance and in the aggregate the amounts paid out by the Governments of other lands to their pensioners; and in the next place, showing that in our American system comparatively few distinctions are made on account of rank as compared with the distinctions made on this account in the other systems. There prevails in

the system of pension laws of this country the great democratic idea of equality of man, and pensions are issued rather on the ground of individual disablement than on account of the rank previously borne in the military service. Such distinctions are still maintained, it is true, but they are slight as compared with those maintained in other countries.

The estimates for appropriations made by the Commissioner of Pensions, and submitted through this Department and the Treasury, I have examined critically and believe that they are framed with due regard to economy and to the needs of the service. I respectfully suggest that they may be made without curtailment. They evince a careful study of the needs of the pension system, the probable outlay for the coming year, and the cost of the Bureau in all its details.

In addition to the recommendation of the Commissioner of Pensions I would suggest that widows who may remarry, and who may subsequently become widows, or be divorced without fault upon their part, should have their pensions revived to them for the period of such second widowhood.

As the chief of this Bureau is a soldier distinguished for his gallant services and sufferings in the cause of the Union, I have confided to him the exclusive management thereof, and although his policy has at all times had my approval, to him is due the credit for the success which has marked its administration.

BOARD OF PENSION APPEALS.

The appeals to the Secretary of the Interior of pension claimants dissatisfied with the adjudications of the Bureau of Pensions have increased year by year, as follows:

For 1881.....	479	For 1885.....	2,700
For 1882.....	513	For 1886.....	2,874
For 1883.....	1,097	And there were pending on the 1st	
For 1884.....	2,148	of January, 1887.....	3,894

This rapid accumulation led to the employment under the authority of Congress of a board of pension appeals, consisting of three persons, whose duty was to examine all appeals in pension cases, and to submit the result in each case in the form of a written opinion to the Secretary, which, if approved and signed by him, became the decision of the Department and the final action in the claim. It was soon found, however, impossible even for this board to keep pace with this rapidly growing business, and Congress accordingly, upon the recommendation of the Secretary of the Interior, in the appropriation act of July 31, 1886, provided for the appointment of six additional persons to be appointed by him, and from whom he was authorized to constitute two additional boards of pension appeals.

In the month of October, 1886, the board of pension appeals was reorganized upon a plan set forth in the order of the Secretary. Under this plan of organization, though the work was much advanced, it was found that even with this increase of force it was impossible to do

much more than to keep pace with the new cases of appeal, so that but little impression was made in reducing the mass of accumulated business. Congress again provided for an additional increase of three members of said board in the act approved March 3, 1887, who were duly appointed, organized into a fourth board, and entered upon the performance of their duties during the month of July, 1887.

Since that time the work has been pushed forward as rapidly as was consistent with a careful and proper consideration of the claims presented on appeal. Most gratifying results have been accomplished, and at the present time the accumulations of past years have been practically disposed of, and the current appeals are now being decided as rapidly as the claims can be prepared and sent up from the Pension Office to this Department.

The following is a statement showing disposition of pension claims by the Department of the Interior from July 1, 1886, to November 1, 1887:

Month.	Appeals pending on the first of the month.	Appeals filed during the month.	Total.	Action of Pension Office sustained.	Action of Pension Office reversed.	Claims reconsidered by the Pension Office.	Appeals withdrawn.	Appeals dismissed.	Total appeals disposed of.
1886.									
July.....	3,266	205	3,471	41	10				51
August.....	3,421	200	3,621	52	4				56
September.....	3,564	260	3,824	44	13	30			87
October.....	3,737	220	3,957	33	2	42			77
November.....	3,880	177	4,057	105	14	44	4		167
December.....	3,890	237	4,127	177	21	19	4	9	230
1887.									
January.....	3,897	233	4,130	182	34	87	17		310
February.....	3,820	164	3,984	300	39	84		13	436
March.....	3,548	180	3,728	327	21	115	3	25	491
April.....	3,237	198	3,435	325	15	120	2	17	479
May.....	2,956	174	3,130	306	17	119	2	11	455
June.....	2,075	167	2,242	445	23	108	2	8	586
July.....	2,256	133	2,389	279	10	90		24	403
August.....	1,986	153	2,139	377	4	126		21	528
September.....	1,611	133	1,744	347	12	104		19	482
October.....	1,262	119	1,381	389	7	43		12	451
November.....	930								
Grand total.....		2,953	3,729	236	1,131	34	159		5,289

RECAPITULATION.

Appeals pending July 1, 1886	3,266
Appeals filed from July 1, 1886, to Nov. 1, 1887.....	2,953
Total	6,219
Appeals wherein Pension Office was sustained	3,729
Appeals wherein Pension Office was reversed.....	236
Appeals wherein action was reconsidered by Pension Office.....	1,131
Appeals withdrawn.....	34
Appeals dismissed.....	159
Total	5,289
Appeals pending Nov. 1, 1887.....	930
Appeals filed from Nov. 1 to Nov. 19, 1887, inclusive	84
	1,014
Appeals disposed of from Nov. 1 to Nov. 19, inclusive	406
Total number of appeals pending Nov. 19, 1887.....	606

The nominal balance of 606 appeals now pending before the Department is merely technical, and does not express the actual number of appeal cases which can be acted upon by the Department at the present time. They are simply appeals remaining upon the docket of the Department, although they are not actually in a condition to be finally acted upon and determined, but are under re-examination by a board of re-review in the Pension Office.

I submit herewith a letter from the Assistant Secretary of the Department, proposing certain changes in the legislation now covering this branch of public business, which I recommend to your special consideration.

For the present very gratifying condition of the work of the Board of Pension Appeals especial commendation is due to Assistant Secretary Hawkins, who has had the sole charge of this entire business.

THE PATENT OFFICE.

The Commissioner of Patents urgently renews the recommendation of his predecessor that the Patent Office be furnished with more rooms and greater facilities, and that the model hall and library rooms be restored and repaired. It is the opinion of those most conversant with the subject that the loss of time and convenience to the office force due to the present arrangement of rooms—the inconveniences, discomforts, and lack of facilities, and the remoteness of divisions from each other, etc.—if properly economized and applied, would furnish a sum sufficient to pay for the rental of a building adequate to the needs of the Bureau in this city.

In a letter to me, dated September 1, 1887, the Commissioner says:

I regret to be compelled to report a serious defalcation in the office of the financial clerk of this Bureau when it was in charge of the late Mr. Levi Bacon. His death, which occurred on the 22d of June, 1887, necessitated a settlement of his accounts, and an investigation disclosed the fact that there existed a shortage of \$31,091.61. As against this deficiency there were found due bills, miscellaneous memoranda, etc., where Mr. Bacon had advanced and loaned the public money, amounting to \$15,011.01, leaving net cash unaccounted for \$16,080.60. Of this latter fund (\$16,080.60) the sum of \$11,525.60 is public money belonging to the revenues of the office. The remainder, \$4,555, belongs to the attorneys' fund, made up of deposits with the financial clerk from time to time by attorneys to meet the charges and fees they are required to pay in their business transactions with the office. It will be observed that this shortage of \$16,080.60 will be increased to the extent that the aggregate of the due bills and miscellaneous items falls short of collection. Thus:

The total shortage is:

Actual cash unaccounted for.....	\$16,080.60
Represented in due bills, etc.....	15,011.01
	<hr/> 31,091.61
From the aggregate of these due bills, etc., there has since been collected the sum of	8,662.80
	<hr/> 22,428.81

Leaving the present deficiency

There is reason to believe that something more will yet be collected upon these due bills, etc., but no estimate can be made of the amount.

REPORT OF THE SECRETARY OF THE INTERIOR. 633

The following statements exhibit in detail the business of the office for the fiscal year ending June 30, 1887:

Number of applications for patents.....	35,434
Number of applications for design patents.....	797
Number of applications for reissue patents.....	150
Number of applications for registration of trade-marks.....	1,270
Number of applications for registration of labels.....	757
Number of caveats.....	2,616
Total.....	41,024
Number of patents granted, including reissues and designs.....	21,732
Number of trade-marks registered.....	1,101
Number of labels registered.....	384
Total.....	23,217
Number of patents withheld for non-payment of final fees.....	3,115
Number of patents expired.....	12,792

RECEIPTS AND EXPENDITURES.

Receipts from all sources.....	\$1,150,046.05
Expenditures (including printing and binding and contingent expenses).....	981,644.09
Surplus.....	168,401.96

BALANCE IN THE TREASURY OF THE UNITED STATES ON ACCOUNT OF PATENT FUND.

June 30, 1886.....	\$3,000,000.00
June 30, 1887.....	168,401.96
Total.....	3,168,401.96

COMPARATIVE STATEMENT.

	Receipts.	Expenditures.
June 30, 1884.....	\$1,145,533.10	\$913,845.98
June 30, 1885.....	1,074,974.35	970,277.58
June 30, 1886.....	1,206,167.80	991,829.41
June 30, 1887.....	1,150,046.05	981,644.09

The Commissioner calls attention to a typographical error on page 4 of the printed record for the last fiscal year. Under the heading "Receipts and Expenditures," the receipts should read \$1,206,167.80, instead of \$1,200,167.80, and the expenditures should read \$992,249.63, instead of \$882,249.63.

The apparent discrepancy in the expenditures for the year 1885-'86, above stated, viz..... \$992,249.63
and 991,829.41

420.22

is accounted for in the fact that certain salaries on account of promotions were refunded, the same having been disallowed by the Treasury Department.

RAILROADS.

The report of the Commissioner of Railroads and the accompanying report of the railroad engineer of his office, herewith transmitted, state in detail the financial condition and material facts relative to the several railroads aided by the Government. The Commissioner's report embraces twenty-three railroads subsidized or aided by land grants. The engineer reports the roads examined to be in good condition and advancing in improvements.

THE UNION PACIFIC SYSTEM.

The Union Pacific Railway Company embraces the Union Pacific, the Kansas Pacific, and the Denver Pacific Companies. The total length of this system of roads, with its branches, is 4,594.40 miles. The company has expended the past year \$816,211 on rails, ties, and bridges. At the end of the year the company owned 351 locomotives, 300 passenger cars, and 5,250 freight cars. The sum of \$23,328,760 has been received from sales of granted lands, and at the close of the last calendar year the company still had on hand unsold 7,059,207 acres, valued at \$14,004,270. Its total debt on December 31, 1886, was \$159,499,747.31, and its capital stock \$60,868,500. Its assets were \$257,592,821.23. The unpaid subsidy bonds amount to \$33,539,512, and interest paid by the Government to \$38,130,481.02, aggregating a liability to the Government of \$71,669,993.02.

Union Division:

Total earnings	\$12, 223, 181. 81
Total expenses	9, 475, 598. 39
Net earnings	2, 747, 583. 42

Kansas Division:

Total earnings	4, 100, 671. 16
Total expenses	2, 314, 193. 59
Net earnings	1, 786, 477. 57

In the above are included the earnings of the Omaha bridge and of the Pullman cars. The funded debt of the Union Pacific Railway Company December 31, 1886, was \$115,508,639.50, an increase over that of the year previous of \$11,445. Total revenue for year ended December 31, 1886, \$24,141,740.96; total expenditures, \$20,011,766.98, giving a surplus of \$4,129,973.98.

CENTRAL PACIFIC.

This road is operated under a ninety-nine year lease from April 1, 1885, by the Southern Pacific Company of Kentucky. The company owns 236 locomotives, 321 passenger cars, and 4,463 freight and other cars. The total sales of land amount to 2,086,584 acres, and the com-

REPORT OF THE SECRETARY OF THE INTERIOR. 635

It has received \$7,318,478 from all sales. It yet owns 315,800 acres, the total earnings for the calendar year were \$6,523,434.45, and the total expenses \$5,051,892.17, the net earnings being \$1,471,542.28.

Total debt December 31, 1886.....	\$123,799,277.79
Capital stock	62,000,000.00
Total	191,799,277.79

Among its liabilities are \$27,855,680 of subsidy bonds and \$30,970,77.01 interest on bonds accrued but not due.

Total earnings year ended December 31, 1886	\$6,523,434.45
Total expenses year ended December 31, 1886	5,051,892.17
Net earnings.....	1,471,542.28

SIoux CITY AND PACIFIC.

This company, whose total length of road is 107.42 miles, owns 12 locomotives, 14 passenger cars, and 196 freight and other cars. Its lands were sold in bulk April 15, 1875, for \$200,000.

Subsidy bonds received from Government.....	\$1,628,320.00
Interest paid by Government.....	1,806,244.69
Total	3,434,564.69

CENTRAL BRANCH, UNION PACIFIC.

The subsidized portion of this road extends from Atchison, Kans., to Waterville, a distance of 100 miles. The rolling stock has not increased since my last report. The company received from the Government 245,000 acres of land.

Subsidy bonds	\$1,600,000.00
Interest on bonds.....	1,885,808.26
Total	3,485,808.26
Total debt and stock	6,836,479.16
Total assets	4,933,878.44
Deficit.....	1,902,600.72

NORTHERN PACIFIC.

This company operates 3,081.5 miles of road. It owns 412 locomotives, 285 passenger cars, and 9,517 freight and other cars. The company has received, up to December 31, 1886, from the Government 13,845,072.5 acres of land, and has sold 5,977,060.99 acres, for \$21,324,039.07. There is outstanding on time sales the sum of \$3,758,836.63.

Total assets.....	\$173,179,220.16
Total stock and debt.....	172,095,251.64
Surplus.....	1,083,968.52
Total debt.....	85,158,484.94
Capital stock	86,936,766.70

OREGON AND CALIFORNIA.

The lines owned and operated by this company embrace 451 miles of road. It has received from the Government 323,068.68 acres of land, of which it has sold 242,516.35 acres. It has received from sales of land \$407,876.54, and there are outstanding on time sales \$377,545.36. The company owns 43 locomotives, 42 passenger cars, and 593 freight and miscellaneous cars.

Total stock and debt	\$35,078,443.00
Total assets.....	34,345,734.00
Deficit.....	732,709.00

ST. PAUL AND DULUTH.

This company operates 225 miles of road. It owns 53 locomotives, 45 passenger cars, and 2,161 freight and miscellaneous cars. Of the 1,466,009.46 acres of land the company received from the Government it has sold 314,514.21 acres. There are outstanding on time sales \$46,255.84.

Total assets.....	\$12,262,298.79
Total stock and debt.....	12,097,690.14
Surplus.....	164,608.65

CHICAGO AND NORTHWESTERN.

The total length of the lines owned and operated by this company is 4,101 miles. It owns 735 locomotives, 507 passenger cars, and 22,649 freight and other cars. It has received from the Government 2,956,176.96 acres of land, and has disposed of 1,368,580.45 acres. It yet retains 1,587,596.51 acres. The receipts from sales of land are \$4,771,448.21, with the sum of \$912,140.37 outstanding.

Total assets.....	\$192,223,394.07
Total stock and debt.....	174,221,055.73
Surplus	18,002,262.34

CHICAGO, ROCK ISLAND AND PACIFIC.

This company operates 1,489.09 miles of road. It received from the Government 1,261,181 acres of land. No report of land sales nor of its financial condition has been made by the company since my last report.

CHICAGO, BURLINGTON AND QUINCY.

This company operates 4,036 miles of road. It has received 2,781,714.77 acres of land from the Government. Since my last report the company has submitted no statement relative to land sales nor as to its financial condition. The company has 619 locomotives, 426 passenger cars, and 24,275 freight cars.

DUBUQUE AND SIOUX CITY.

This road extends from Dubuque to Iowa Falls, and is operated by the Illinois Central Railroad Company. It owns no equipment. It received from the Government 548,697.60 acres of land. The length of its road is 142.89 miles.

IOWA FALLS AND SIOUX CITY.

This road extends from Iowa Falls to Sioux City, a distance of 183.69 miles. It has no equipment and is operated by the Illinois Central Railroad Company. It has received from the Government 640,256.11 acres of land, of which it has sold 613,808.74 acres. No report has been received from the company the past year.

ST. JOSEPH AND GRAND ISLAND.

The mileage of this road is 320.70 miles.

Total assets.....	\$13,749,651.61
Total stock and debt.....	13,746,308.42
Surplus.....	3,343.19

HANNIBAL AND ST. JOSEPH.

The total length of this road is 296.06 miles.

Total assets.....	\$25,151,424.82
Total stock and debt.....	22,953,353.89
Surplus.....	2,198,070.93

MISSOURI PACIFIC.

This company owns and operates 1,103 miles of road. It owns 229 locomotives, 159 passenger cars, and 8,830 freight and other cars.

Total assets.....	\$78,467,572.27
Total stock and debt.....	73,968,379.24
Surplus.....	4,499,193.03

MISSOURI, KANSAS AND TEXAS.

This company owns and leases 1,386 miles of road. The number of acres patented December 31, 1886, is 622,950.98. The total amount received from the sales of land is \$2,276,782.82. And there are outstanding on time sales \$42,047.49.

Total stock and debt.....	\$93,144,412.66
Total assets.....	89,344,011.32
Deficit.....	3,800,401.34

ST. LOUIS, IRON MOUNTAIN AND SOUTHERN.

The total mileage of this road is 1,101 miles. The company owns 158 locomotives, 52 passenger cars, and 4,358 freight and other cars. Up

to December 31, 1886, there had been patented to the company by the Government 1,326,691.81 acres of land. It yet retains 874,139.76 acres. It has received from sales of lands \$1,436,009.88, and there are on standing on time sales \$640,004.14.

Total assets.....	\$62,829,391.1
Total stock and debt.....	59,054,305.1
Surplus.....	3,775,086.0

ST. LOUIS AND SAN FRANCISCO.

The mileage reported as owned December 31, 1886, was 929.6 miles. The company has 117 locomotives, 92 passenger cars, and 3,983 freight and other cars.

Total assets.....	\$63,708,841.0
Total stock and debt.....	60,601,622.0
Surplus.....	3,107,219.0

MEMPHIS AND LITTLE ROCK.

This company operates 135 miles of road and received from the Government 184,185.08 acres of land.

Total assets.....	\$646,465.54
Total liabilities.....	185,658.72
Surplus.....	460,806.82

ATCHISON, TOPEKA AND SANTA FÉ.

The mileage of this company December 31, 1886, was 3,373 miles. The company is also interested in railways connected with it of the length of 2,228 miles, making about 5,601 miles in the whole system at present. The company operates 361 locomotives, 264 passenger cars, 9,777 freight cars, and 706 miscellaneous cars. The Government has patented to the company 3,331,920.64 acres of land, all of which has been sold. The receipts from these sales amounted to \$10,963,741.31. There are outstanding on account of time sales \$1,178,256, principal, and \$165,561.32 interest.

Total assets.....	\$119,112,360.91
Total stock and debt.....	111,585,511.22
Surplus.....	7,526,849.69

ATLANTIC AND PACIFIC.

The mileage operated by this company is 910.6 miles. Since 1880 the company has received \$662,801 from the sales of land, and there is due from time sales \$177,698.98. The company still owns 23,037.36 acres of land.

Total stock and debt.....	\$105,696,164.69
Total assets.....	102,654,139.04
Deficit.....	3,042,025.65

TEXAS AND PACIFIC.

The report of this company only embraces the New Orleans Pacific Division. The rolling stock consists of 41 locomotives, 14 passenger cars, and 847 freight and other cars. The company has received from the Government 67,969.70 acres of land, but reports no sales thereof. The company gives no account of its financial condition or the business of its road.

SOUTHERN PACIFIC RAILROAD OF CALIFORNIA.

The total length of this road, embracing owned and leased lines, is 1,063.57 miles. The Government has patented to it 1,229,015.07 acres of land, of which there have been sold 1,024,009.58 acres. The total receipts from sales of land amount to \$4,116,780.09. There are outstanding on account of sales 2,301,685.05.

Total assets.....	\$83,943,021.11
Total stock and debt.....	79,744,727.38
Surplus.....	4,198,293.73

THE INTER-STATE COMMERCE COMMISSION.

Section 18 of the act approved February 4, 1887, providing for the organization of the Inter-state Commerce Commission, directs that—

The Commission shall have authority to employ and fix the compensation of such other employes as it may find necessary to the proper performance of its duties, subject to the approval of the Secretary of the Interior. The Commission shall be furnished by the Secretary of the Interior with suitable offices and all necessary office supplies.

* * * All of the expenses of the Commission, including all necessary expenses for transportation incurred by the Commissioners, or by their employes under their orders, in making any investigation in any other places than in the city of Washington, shall be allowed and paid, on the presentation of itemized vouchers therefor approved by the chairman of the Commission and Secretary of the Interior.

And in section 21 it is provided—

That the Commission shall, on or before the first day of December in each year, make a report to the Secretary of the Interior, which shall be by him transmitted to Congress, etc.

I respectfully recommend that the Commission be authorized to report directly to the President; to appoint its own officers and employees; and to draw upon the Treasury for the payment of the salaries of its subordinates as well as for all expenses incurred under the act.

When the Commission makes its report I shall transmit it to you and accompany it with an abstract of all disbursements made by this Department for said Commission since its organization.

BUREAU OF LABOR.

During the year this Bureau has completed the investigation into convict labor. The information was collected in response to a joint resolution of Congress, approved August 2, 1886, as follows:

Resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That the Commissioner of Labor be, and he is hereby, authorized and directed, under the direction of the Secretary of the Interior, to make a full investigation as to the kind and amount of work performed in the penal institutions of the several States and Territories of the United States and the District of Columbia, as to the methods under which convicts are or may be employed, and as to all the facts pertaining to convict labor and the influence of the same upon the industries of the country, and embody the results of such investigation in his second annual report to the Secretary of the Interior: Provided, That the investigation hereby authorized can be carried out under the appropriations made for the expenses of the Bureau of Labor for the fiscal year ending June 30, 1887.

Under the foregoing resolution, with my approval, a very full investigation has been carried on, extending to all penal institutions of all grades in all the States and Territories and the District of Columbia in which the inmates are in any degree employed in productive labor. The agents of the Bureau were supplied with carefully prepared instructions and a series of schedules embodying inquiries relative to each plan or system followed in the various institutions.

The general systems of employment of convicts, in brief, are as follows:

1. The contract system, under which a contractor employs convicts at a certain agreed price per day for their labor, the prisoners working under the immediate direction of the contractor or his agents. Under this system the institution usually furnishes to the contractor the power necessary, and even the machinery, for carrying on the work.

2. The piece-price system, which is simply a modification of the contract system. Under this system the contractor furnishes to the prison the materials in a proper shape for working, and receives from the prison the manufactured articles at an agreed piece price, the supervision of the work being wholly in the hands of the prison officials.

3. The public-account system, under which the institution carries on the business of manufacturing like a private individual or firm, buying raw materials and converting them into manufactured articles, which are sold in the best available market.

4. The lease system, under which the institution leases the convicts to a contractor for a specified sum and for a fixed period, the lessees usually undertaking to clothe, feed, care for, and maintain proper discipline among the prisoners while they perform such labor as may have been determined by the terms of the lease.

The schedule of inquiries comprehended for each institution its locality, name, character, number of contractors or lessees, as the case might be; the kind, grade, and value of goods manufactured; the hours

of labor; the price per day or otherwise for convict labor, both for males and females; the average daily wages of free laborers in the same industries as those carried on in the prison; the parties by whom power, machinery, or tools were furnished; the number of convicts employed in productive labor; the number of free laborers necessary to perform the same work; the number of male and female convicts employed in prison duties; the number idle; the average age of male and female convicts, and the average length of sentences; the amounts, if any, received by convicts for overtime work, and whether convicts are allowed to receive gifts or perquisites; the income from all sources, and the expenses. These inquiries were varied to comprehend the different systems under which goods are manufactured. In addition to these specific inquiries, the agents were directed to collect information on the following points:

1. The influence that the labor of convicts in each institution has upon free labor.
2. The influence of the system in vogue upon the criminal.
3. The general conditions under which work is carried on.

The data gathered by the Bureau cover as nearly as possible the fiscal year ending in 1886, a period terminating usually at some date between May and October.

The information is presented in two parts. Chapter I of Part I exhibits the sixteen general and detail tables. These tables exhibit for each convict institution the various facts secured by the schedule of inquiries before noted. They are followed by statistical summaries, presenting in brief compass the aggregated results.

Chapter II consists of a textual analysis of the preceding tables, bringing out their principal features and salient points.

The results of various State investigations are briefly stated in Chapter III, while the advantages and disadvantages of the various plans that have been suggested from time to time are considered in Chapter IV.

Part II consists of two divisions. The first is devoted to notes indicating to what extent the economic employment of convicts has been carried in ancient and modern times and in various countries. These notes have necessitated a great deal of research, for they have been found scattered through a wide range of historical and other works, many of them not accessible to the general reader. I know of no other collection of such notes on any very extended scale.

In the second division the laws of the States and Territories are brought together. The attempt has been made, and with fair success, to exhibit the laws of the country relating to convict labor in force at the close of the year 1886.

In addition to the preparation of the foregoing report the Bureau has carried on an investigation into the number, causes, duration, results, and other features of all strikes and lockouts occurring in the United

States between January 1, 1881, and December 31, 1886. This work which is now rapidly approaching completion, will appear in the *Third Annual Report*.

During the same time the Bureau has taken up and continued the investigation into the employment, wages, condition, etc., of the work ingwomen of great cities. Much of the field-work relating to this subject has been completed.

The work of the Bureau for the past year has been carried on under improved conditions. Both the field and the office force have shown the result of experience. Not only has a larger amount of labor per capita been performed, resulting from that knowledge of the directest methods which comes from practice, but labor of a better quality has followed. The duties of a statistical office are such as make training and experience absolutely essential to the best results, and it is, therefore, a source of pleasure to observe the steady improvement and constant approach toward that ideal in which every one must rejoice who has good achievement in statistical work at heart.

BUREAU OF EDUCATION.

The Commissioner of Education reports a year's work of unusual amount and interest. Succeeding, as he did, a man so eminent in the domain of education as his predecessor, he endeavored to preserve the spirit and essential excellence of the past, while striving to increase the efficiency of the office for the future by simplifying methods and organization wherever possible.

The number of divisions was reduced from seven to three, and each was placed in charge of an experienced and competent officer, who was made personally responsible for the dispatch of the duties assigned to his branch; the result has been that much work previously in arrears has been finished, and that the newer labors undertaken have been performed with greater promptitude.

The work in arrears was of two kinds, one being the card catalogue of the library, and the other the annual reports and other publications of the office. The catalogue in question was nearly completed by the preparation of 8,000 cards, thus making this collection of 19,000 books and 60,000 pamphlets more than ever useful both to the office itself and to the persons outside who consult its contents in their investigations of subjects relating to education.

The other work found much in arrears was the preparation of the annual reports. The volume for 1884-'85 was not completed, and little of the material to be used in preparing that for 1885-'86 was collected when the Commissioner assumed charge of the office. The first-mentioned volume was completed, printed, and distributed, and the other was entirely compiled and sent to the printer during the fiscal year under review. In addition to these volumes, two incomplete circulars

of information were finished, printed, and distributed; the special report on education at the New Orleans Exposition, previously prepared, was printed and distributed; the second part of the special report upon art and industry, originally undertaken in response to a Senate resolution dated February 2, 1880, was revised and partly printed; and the special report upon Indian education and civilization, undertaken in response to a Senate resolution dated February 23, 1885, was continued and completed. The publications in arrears, thus printed or completed for publication during the year under review, will aggregate at least 4,700 octavo pages.

The work in arrears thus brought up does not represent the whole amount of labor accomplished. The correspondence of the office, comprising more than 337,000 pieces of mail matter, was kept up to date; a special catalogue of the apparatus and articles in the educational museum of the office was compiled, and the whole collection arranged and displayed in suitable cases, thereby making it for the first time really available in all respects for the public information and the service of the office; an exhaustive "Index to the Publications of the Bureau" from its foundation in 1867 to the close of the fiscal year under review has been compiled and will appear among the appendices to the report for the fiscal year 1886-'87. The other parts of the volume just mentioned have been pushed as energetically as circumstances would permit, making it sure of completion at a much earlier date than any of its predecessors for many years past; and three new circulars of information have been prepared and sent to the printer. Two of these form part of the series of historical monographs upon American education, for which, with my approval, the Commissioner has made arrangements. Other works of value have also been undertaken, which want of space prevents me from describing more fully at the present time.

The appendices to the Education report will show in detail the character and extent of the public, corporate, and private instrumentalities of nurture, teaching, and culture in the Union so far as facts relating thereto are procurable. The progress, on the whole, is steady and satisfactory; the public schools have never been more heartily supported nor have other institutions of learning ever been more flourishing than during the year under review.

EDUCATION IN ALASKA.

It is conceded that the perpetuity of our American institutions depends in great measure upon the intelligence of its citizens, and it is claimed that this intelligence is due in no small degree to our system of public education and the success of its schools.

The education of the Indian, and his elevation in the scale of civilization, has become the settled policy of the Government, and has had my earnest co-operation and consideration. If the intelligence of the

American citizen is so necessary to the security of his liberties, how much more important is it that these aborigines, who are now being endowed with all the rights of citizenship, should be prepared by education to appreciate and value their new relations?

It was made the duty of the Secretary of the Interior, by the organic act of May 17, 1884, providing a civil government for Alaska, to make "needful and proper provision for the education of the children of school age in that Territory, without reference to race, until permanent provision shall be made for the same," and the sum of \$25,000 was appropriated for that purpose.

In view of the nature of the duties assigned to the Commissioner of Education by section 516 of the Revised Statutes, and deeming him the proper officer through whom this legislation should be carried into execution, my predecessor, the Hon. H. M. Teller, on the 2d of March, 1885, devolved upon him the duty of preparing a plan of operation and initiating such steps as were necessary for that purpose.

On the 11th of April, 1885, Hon. John Eaton, then Commissioner of Education, appointed Rev. Sheldon Jackson general agent of education in Alaska. This was done by my authority and with my approval. To him was assigned the duty of organizing and superintending the schools. Schools were established by him during the spring of 1885 at several points, and these, with others, have since been maintained with a fair degree of success. In the spring of the present year the present Commissioner, Hon. N. H. R. Dawson, with my concurrence and approval, prepared a plan of organization and series of regulations for the government of these schools, copies of which accompany this report.

The execution of this plan is conferred upon a local board composed of the governor of the Territory, the judge of the United States court, and the general agent of education. To this board is committed the local management of the schools, subject to the general supervision of the Commissioner of Education. It is authorized to appoint the teachers of the public schools, to prescribe their duties, to fix their salaries, to provide general rules for the government of the schools and the attendance of the children, to select the series of text-books, to see that all teaching is done in the English language, to provide the plans and supervise the erection of school-houses, and to lease houses for school purposes.

All salaries and other expenditures for educational purposes are to be audited by the Territorial board, approved by the Commissioner of Education, and transmitted to me for my approval, and when so approved, are paid by the disbursing clerk of the Department out of the funds provided for the education of the children of the Territory. It will thus be seen that the Bureau of Education has neither personal nor official connection with the direct expenditure of the money.

At the close of the school year the board is required to make a report to the Commissioner of Education, transmitting the report of the

general agent, with such recommendations as shall be deemed expedient for the general welfare of education in the Territory.

In order to put this system into successful operation, and to ascertain, by personal observation and inspection the real condition of the educational affairs of the Territory, it was deemed expedient and necessary by me to send the Commissioner of Education in person to Alaska. He made this visit during the months of August and September, and has made a report, to which I call your attention.

Briefly summarized, this report shows that of the 35,000 or more inhabitants of Alaska 5,000 or more are children of suitable age for discipline and instruction by the agency of schools; that of these only 1,757 are at present enjoying any opportunity for such training, leaving more than 3,000 equally entitled thereto but as yet unfurnished therewith; that the schools now in operation are located at only fourteen places, almost entirely in the southeastern portion and the Aleutian peninsula and islands; that the present appropriation of \$25,000 is barely sufficient, after having reduced the pay of the teachers now employed, to support these schools; that both the Territorial board of education and the Commissioner recommend the establishment of schools at eleven other points, where about 1,100 minors can be schooled and where schools, teachers, buildings, and supplies are "urgently needed," and that at least \$25,000 more will be required for this purpose.

In addition to these, the board point out eleven other places where, in the near future, schools should be opened; but schools at these points, in the opinion of the Commissioner, can not be organized to advantage during the next fiscal year.

In view of the facts thus presented by the Territorial board, and fortified by the conclusions of the Commissioner of Education, reached after his personal and careful study of the situation on the spot, I do not hesitate to recommend that \$50,000 be appropriated for the fiscal year ending June 30, 1889, for the maintenance of the schools now in existence, and for the establishment and support of those urgently needed at the eleven places specified in the Commissioner's report.

The plan devised for the local management of schools in the Territory is heartily accepted by the Territorial board provided for therein. The board have organized, and have undertaken their duties with zeal and discretion; the teachers have accepted a reduction of pay cheerfully in order that other necessary objects of expense might not be neglected for want of funds. As a consequence the Government now has suitable buildings for school purposes at four important points in the Territory. As soon as buildings are erected or bought at the other points occupied, a considerable saving in current expenses can be made, since the cost of renting or leasing suitable buildings is considerable.

I am satisfied that the visit of the Commissioner of Education to the Territory has been and will be productive of much good to the schools and to the whole population of Alaska. He is, I believe, the first

official, not immediately connected with the government of the Territory, who has ever visited any part of it upon such an important and beneficent errand. In this feeling of satisfaction the Territorial board heartily concur.

Another topic to which the Commissioner of Education calls attention is the migration of 1,200 civilized and Christian Indians from Metlakahla, British Columbia, to Annette Island, in Southeastern Alaska. Thirty years ago these people were barbarians so degraded that they were addicted to occasional cannibalism.

Under the wise and sensible supervision of Mr. William Duncan, an English lay missionary, they had become so peaceable, industrious, moral, and law-abiding that after building an excellent village of public and private structures and accumulating other property at Metlakahla, valued in the aggregate at more than \$100,000, they gave up everything without recourse to violence, and moved to a new place in another country, where they hope that their civil rights and their religious predilections will be respected. With the cause of their previous dissatisfaction this Government has nothing to do, but the addition of such a community to the population of Alaska should be a subject of satisfaction for reasons too obvious to mention. The Commissioner was present at the time when the advance party of these immigrants welcomed the arrival of their tried and trusted friend, Mr. Duncan, to the place of their new habitation, after a long absence in their behalf.

At the request of Mr. Duncan, the Commissioner assured these deserving people of the sympathy and protection of this Government; of the moral certainty that their rights to their new homes would be secured to them whenever the general land laws of the United States should be extended in their application so as to include the Territory of Alaska; and of the probable speedy establishment of schools in their midst for the benefit of their children.

To the interesting details reported about this occasion, I invite the special and favorable attention of Congress.

ALASKA.

GENERAL CONDITION.

The condition of Alaska in its civil relations is anomalous and exceptional. The organic act of Congress, May 17, 1884, providing a civil government for the Territory, was deferred until nearly twenty years after the treaty of acquisition, and is an imperfect and crude piece of legislation. It provides little more than the shadow of civil government, without the right to legislate or raise revenue. It expressly inhibits the operation of the general land laws, while it provides that the laws relating to mines and mining, and the rights incident thereto, shall be in full force and operation. It provides no means by which its citi-

zens may acquire homes or homesteads, or obtain title to an acre of land in its ample domain of more than 700,000 square miles. It provides no means by which the towns and villages may be incorporated, and the inhabitants allowed the benefits and protection of municipal law. It has established a single tribunal with many of the powers of a Federal and State court, having a more extensive territorial jurisdiction than any similar court in the United States, but without providing the means of serving its process or enforcing its decrees.

This act has been well described as a "legislative fungus, without precedent or parallel in the history of American legislation." Its citizens are so embarrassed for the want of local self-government that their material progress and advancement are retarded, emigration is discouraged, and its rich and inviting fields of industry remain undeveloped. The failure of Congress to provide means of acquiring homesteads in such parts of the Territory as possess a temperate climate constitutes one of the principal embarrassments under which the people labor.

With immense forests of timber at their doors, nearly all the lumber must be obtained from Washington and Oregon, at fabulous prices and great inconvenience.

Tracts of land producing vegetables and the grasses, affording rich pasturage for cattle, may be found at many points on the islands and mainland. Here an industrious and enterprising population could find comfortable homes and develop thriving industries. The extension of the land laws to such portions of the Territory would be of great and signal benefit, and would invite the permanent settlement of citizens.

The climate in the southeastern sections, along the coast, near the influence of the Japan current, is temperate, and is greatly superior to that of those sections of the continent on the Atlantic coast in the same latitudes. On one-half of the coast of Alaska the thermometer seldom falls below zero.

The population is estimated at 35,000 whites, creoles, and natives, and is, as a general rule, provident, self-supporting, well-behaved, and law-abiding.

The industries consist of the fur trade, mining, canning of fish, and the sawing of lumber by a few mills for domestic purposes. The manufacture of lumber, whenever the laws permit, will become an important source of wealth.

With the same advantages of civil government which are enjoyed by the citizens of other Territories the people of Alaska would soon enter upon an era of prosperity which would justify the expectations of its most sanguine friends. In its present condition the laws can not be successfully enforced and administered. The only court is located at Sitka, and is separated by water, at long distances, from every other part of its jurisdiction. Criminals readily and frequently avoid arrest by taking refuge in the seclusion of remote parts of the Territory where there are no means to pursue them, and consequently escape trial and pun-

ishment. All of these evils should be remedied by appropriate special legislation.

Alaska is the gate of the North Pacific, and in the not distant future will become one of our most valuable possessions.

Meanwhile it is the duty of the Government to protect its citizens and to develop its rich resources.

GEOLOGICAL SURVEY.

I ask special attention to the report of the Director of the Geological Survey. Apart from the achievements of this Bureau as one of the great instrumentalities for the advancement of scientific research, I desire to express my admiration of its organized system for the transaction of business. In order to determine whether it was consistent with my duty to sanction the estimates of the Director for this Bureau, it became necessary for me to look into the details of its practical operations. While undertaking to perform this duty I was struck with the perfect adaptation of the system to the securing of efficient work and rigid economy as well as to fixing, by documentary evidence, the responsibility for the business transacted and of making the documentary and the actual responsibility coincident.

The Director reports that satisfactory progress was made in his topographic work of the year, an aggregate area of 55,684 square miles having been surveyed, all of which is shown in a table giving the States, the scale of publication, contour interval in feet, and approximate area in square miles.

The results of the work which has been done in the different geological divisions he reports as being important in their bearing on the solution of various scientific problems, and some of them have had marked economic significance. Among these may be mentioned "the elucidation of the structure of the iron and copper bearing rocks near Lake Superior; the mapping of the distribution of coal, iron, cement, etc., in the Appalachian region, and the study of the origin and mode of occurrence of petroleum and natural gas. An investigation respecting the quicksilver deposits of the United States, begun some years ago, has been completed," and an abstract accompanies the report of the Director, whose observations and studies of volcanic geology are interesting.

Among the chemical researches carried to a successful conclusion during the year is an elaborate study of the mineral waters of the Yellowstone National Park.

One of the duties imposed upon the Director of the U. S. Geological Survey is the collection of statistics in relation to mines and mining other than gold and silver, and the making of chemical analyses of iron, coal, and oil. The former branch of this work is carried on in the di-

vision of mining statistics and technology, by which the following table was prepared :

Metallic products of the United States in 1886.

	Quantity.	Value.
Pig-iron, spot value long tons..	5,683,329	\$95,195,760
Silver, coining value..... troy ounces..	39,445,312	51,000,000
Gold, coining value..... do.....	1,881,250	35,000,000
Copper, value at New York City..... pounds..	161,235,351	16,527,651
Lead, value at New York City..... short tons..	135,629	12,667,749
Zinc, value at New York City..... do.....	42,641	3,752,408
Quicksilver, value at San Francisco..... flasks..	29,981	1,060,000
Nickel, value at Philadelphia..... pounds..	214,992	127,157
Aluminum, value at Philadelphia..... do.....		27,000
Antimony, value at San Francisco..... short tons..	35	7,000
Platinum, value, crude, at New York City..... troy ounces..	50	100
Total		215,864,825

NOTE.—The value of the non-metallic mineral products of the United States during the same time, reported and estimated, was \$249,963,063.

FINANCIAL STATEMENT.

Amounts appropriated for and expended by the United States Geological Survey for the fiscal year ending June 30, 1887.

	Geological Survey.	Salaries, office of Geological Survey.	Total appropriation.
Amounts appropriated.....	\$407,700.00	\$35,540.00	\$503,240.00
Amounts expended, classified as follows:			
a. Services..... \$349,836.93			
b. Traveling expenses..... 20,342.77			
c. Transportation of property..... 4,273.10			
d. Field subsistence..... 7,989.30			
e. Field supplies and expenses..... 39,503.49			
f. Field material..... 9,637.36			
g. Instruments..... 6,179.41			
h. Laboratory material..... 4,294.08			
i. Photographic material..... 3,558.94			
j. Books and maps..... 3,020.00			
k. Stationery and drawing material..... 808.94			
l. Illustrations for reports..... 1,080.00			
m. Office rents..... 2,409.44			
n. Office furniture..... 680.00			
o. Office supplies and repairs..... 5,304.27			
p. Storage..... 577.88			
q. Correspondence..... 344.13			
r. Bonded railroad accounts, freight, \$660.57; transportation of assistants, \$1,494.05..... 2,153.62			
Total.....	462,900.32		
a. Salaries.....		34,980.94	407,881.26
Balance unexpended.....	4,799.68	559.06	5,358.74
Probable amount required to meet outstanding liabilities.....	4,799.68		

HOT SPRINGS RESERVATION, ARKANSAS.

With the appropriation (\$20,000) made in the act of August 4, 1886, "for completion of improvement of Hot Springs Creek," the culvert which had been constructed under prior appropriations down to the

southern boundary of the reservation and across Reserve avenue was continued a distance of 620 linear feet, ending about 160 feet north of Malvern Crossing. The filling between the reservation front and the wall of the culvert was also completed, the entire area leveled and graded to the street, a gravel foot-path laid, and an inexpensive post and chain fence constructed along the whole length of the reservation. When this space is further improved, as proposed by the superintendent, by setting it in grass and shade trees, it will afford a pleasant and attractive promenade.

In my last report I invited attention to applications for renewal of leases of permanent bath houses and of bath-house sites which expired December 16, 1883, but upon which no action had been taken in deference to a Senate resolution of February 25, 1886, declaring it to be the opinion of the Senate that such leases should not be renewed "unless the Forty-ninth Congress shall adjourn without having legislated in reference thereto." I then stated that in order to remedy the uncertainty of tenure which had deterred the bath-house managers from keeping their buildings and appliances in a condition of repair necessary to the comfort and convenience of their patrons I would renew the leases if Congress at its then approaching session did not legislate to the contrary. No legislation upon the subject was perfected, and accordingly all the leases have been renewed (excepting that of the Rector bath house) for a period of five years, commencing from the expiration of the original lease, December 16, 1883. Before these leases were renewed the bath-houses were inspected by the superintendent and the lessees required to make repairs found to be necessary. The repairs of the Rector have not been made, and therefore the lease of that bath house has not yet been renewed.

On five of the available building sites upon the reservation, which were leased in 1883 and 1884, no bath houses have yet been erected. During the progress of the creek improvement the only approach to these sites was obstructed to an extent which interfered with building operations, and the Department did not insist upon compliance with the terms of the leases respecting the construction of buildings. This obstacle having been removed by the completion of the creek work, the lessees of these sites have been notified that their buildings must be completed, or their leases will be annulled. When these houses are in operation, it is believed that the additional bathing facilities they will provide will be amply sufficient to accommodate the increasing number of invalid visitors to this resort.

By the act of December 16, 1878, relating to the reservation (Stats., vol. 20, p. 258), the Secretary of the Interior was "directed to lease to the present proprietors of the Arlington Hotel or their assigns the grounds, not exceeding 1 acre, now occupied by them for a period of ten years, unless otherwise provided by law, at an annual rental of \$1,000." The lease made under this authority will expire December 15,

1888, and the question of its renewal will then demand consideration. I deem it proper that the attention of Congress should be directed to this subject, in order that there may be opportunity for timely legislation upon the subject.

The act of March 3, 1877 (Stats. vol. 19, p. 377), provided for the appointment of a superintendent to have charge of the reservation and authorized the Secretary of the Interior to fix a special tax on water taken from the springs upon the reservation sufficient to pay for the protection and necessary improvement of the same. The act of December 16, 1878 (vol. 20, p. 258), fixed the tax for use of the water at \$15 per tub per annum, and required "that the superintendent shall provide and maintain a sufficient number of free baths for the use of the indigent, and the expense thereof shall be defrayed out of the rentals hereinbefore provided for." The annual income from water rents and from ground rent of the Arlington Hotel site is \$4,705. This amount is barely sufficient to defray the salary of the superintendent and the expense of maintaining and repairing the free bathing pools, leaving no money available for any improvement of the free bath-house. I commend to your consideration the following remarks upon this subject by the superintendent in his annual report:

I beg to invite the attention of the Secretary especially to the condition of the building known as the Free Bath-house. This is an institution set apart by the Government where the poor and diseased may come and take the baths without price or question. Nearly or quite four hundred individuals of these classes avail themselves of this gracious privilege daily, and the number is getting larger, so that the time is rapidly coming when there will not be room for all. This is made apparent by a glance at the building, which consists of only four small rooms (a dressing and pool room for each sex). The pools are so small (9 feet square) that sometimes standing room is not to be had in them. The building itself is a piece of patch-work, of rude construction, thrown together at different periods, the women's side being contracted, but fairly comfortable otherwise, whilst the part set aside for men is a small, flimsy shanty, uninhabitable in severe weather. Its entire appearance and reality is stunted, mean, and shabby, not in accord with the benevolent designs of the Department, and unworthy to be owned by this great Government. I respectfully recommend that Congress be asked to appropriate the sum of \$6,000 with which to erect upon the present site a free bath-house, with larger and better pools and rooms, where that friendless class of unfortunates who are driven to it by disease and poverty may receive humane treatment in their fight for health. I cannot imagine a charity more worthily bestowed or one which will yield richer fruits.

I concur in the recommendation of the superintendent that some provision should be made for improving the free bath-house, and in view of the emergency disclosed in his statement it would seem most desirable that there should be an amount immediately available by appropriation by Congress for that purpose. If the tax for use of the hot water were increased by law, there would, in time, be a fund derived from that source which could be applied to this much needed improvement. During the time the rate of tax was left to the discretion of the Department, \$60 per tub per annum was paid by the lessees of water privileges, without remonstrance, until the rate was reduced by law to

\$15 per tub. I recommend that the water tax be materially increased, and suggest that \$40 per tub, per year, would not be an unreasonable rate.

In my report for 1885, and again in 1886, as well as in the annual reports of my predecessor, attention was directed to the fact that three-fifths of the hot water from the reservation now runs to waste, owing to the low position of the springs from which this portion of the supply is derived, and an appropriation was recommended for providing the piping, reservoirs and pumping machinery required to make this water available for use in the bath-houses to which it will not at present flow by gravitation. The estimated cost of the proposed system is \$31,000, and I renew the recommendation of an appropriation of that amount for the purpose specified. The present available supply of hot water is barely sufficient to meet the requirements of the bath-houses now in operation and the Army and Navy Hospital. The collection and economical distribution of all the water, including that which is now wasted, will be necessary to meet the increased demand when the projected additional bath-houses require a supply.

Several applications have been made to the Department for authority to convey the hot water to bath-houses off of the reservation in the lower part of the city, and many good reasons are given why the law should be so changed as to permit this privilege to be granted. Whether, therefore, any general legislation shall be had in accordance with the general tenor of this report, I urge at least the adoption of a joint resolution by Congress authorizing the Secretary of the Interior to permit the use of the water to supply a limited number of bath-houses off of the reservation, and that he be further authorized to fix a tax for the use of the water at a larger sum per annum than is allowed under existing legislation, so that a greater fund can be realized for purposes of improvement and general expenses.

I also recommend that section 12, act of March 3, 1877, and section 7, act of June 16, 1880, be amended so as to authorize the sale of lots from the reservation at Hot Springs instead of at Little Rock. The experience of the Department under the present law upon this subject was referred to in my annual report for 1885, as follows:

At the two sales which have been held it has been claimed that combinations have existed among the comparatively few buyers in attendance to prevent fair competition and to secure the purchase of the lots at less than their real value. The lots were afterwards sold privately by the syndicate, and the profits which should have been realized by the Government were divided amongst its members. It is believed that if the sales could be held at Hot Springs the resulting increase in the number of bidders would render such combination impracticable, and much higher prices would be realized.

This experience has deterred the Department from authorizing any sale of lots since the last auction, in May, 1884, and any further sales would seem to be inadvisable under existing law.



YELLOWSTONE NATIONAL PARK.

In my last annual report I referred to the fact that Congress had made no appropriation for payment of salaries of the superintendent and assistant superintendents of the Park for the fiscal year ending June 30, 1887, the effect of which was to abolish these offices, which had been originally created and, from time to time, continued in the annual appropriation acts. I also stated that in compliance with my request the Secretary of War had detailed a company of cavalry, under command of Capt. Moses Harris, for service in the Park, as provided in the act of March 3, 1883 (Stats., vol. 22, p. 627).

During the past year the Park has been protected by this military force, and Captain Harris has performed the duties of superintendent under the direction of this Department. As Congress at its last session again failed to make any appropriation for the expenses of protecting and governing the Park, the military protection will have to be continued during the current fiscal year.

Captain Harris has been zealous and energetic in enforcing the regulations established by the Department for the protection of the Park, and in the performance of the other duties required of him as acting superintendent he has shown commendable interest and efficiency. It is due to him and to the force under his command that I should make this acknowledgment of my appreciation of the valuable assistance they have rendered in the management and protection of the Park.

I do not believe, however, that it is consistent with the purpose of Congress, as affirmatively expressed in existing law, that the Department should be obliged to resort to military assistance in the care of this reservation, except in emergency and as an adjunct to the civil superintendence, for which, until recently, provision was made. The act of March 3, 1883, provides for the "detail of troops to prevent trespassers or intruders from entering the Park for the purpose of destroying the game or objects of interest or for any other purpose prohibited by law, and to remove such person from the Park if found therein." In the same act provision was made for a superintendent and ten assistants "to be appointed by the Secretary of the Interior and reside continuously in the Park, and whose duty it shall be to protect the game, timber, and objects of interest therein."

The specification in the statute of the services that may be required of the military force detailed under its authority does not include many of the varied and important duties it is necessary to exact of a superintendent as the source upon which the Department must rely for information, as the medium of communication with persons who have been granted the privilege of providing hotels and other conveniences for visitors, and as the representative of the Department in its endeavor to secure to the public the most acceptable accommodation without extortion or other imposition. If it is the desire of Congress that, as now

provided by law, the Park shall remain under the "exclusive control of the Secretary of the Interior," that he shall be responsible for its care and management and be charged with the duty of carrying into effect the objects and purposes for which it was set apart, it would not seem unreasonable to expect that provision should be made, by appropriation, for the necessary assistance to enable him to discharge the duty thus required without having to depend upon the aid of another branch of the service.

I therefore recommend that the appropriation for compensation of superintendent and assistants, or, as they should be more appropriately denominated "Park police," and for contingent expenses of management be restored. The number of assistant superintendents should be increased from ten, as formerly provided, to at least fifteen. The necessity for the additional number will be more readily appreciated when it is remembered that as the attractions of the Park become more generally known and it is more numerous visited, greater vigilance will be required to protect the objects of interest, and that the disappearance of game from the country contiguous thereto, as it becomes more thickly settled, will increase the difficulty of protecting from the hunter that which is within the reservation.

Should Congress deem it best to direct that the present arrangement shall continue, then five experienced mountaineers should be employed as Park police. They should be invested with the powers of deputy marshals, including the power of arrest, and should be selected by the military commander and be under his control. They would be of invaluable service to him in the performance of his duty of preserving the Park from spoliation and the game from destruction, not only in enforcing obedience to law, but also as scouts, as they would be selected on account of their familiarity with the geography of the Park. The military should not have to prosecute offenses against the rules and regulations, but that duty should be performed by civilians.

I have heretofore invited attention to the inadequacy of the existing law, or, more properly, the absence of any law, providing a punishment for offenses committed within the Park. In my last annual report I took occasion to say:

While the acts of Congress confide the care and control of the Park upon the Secretary of the Interior, and confer upon him the power to make rules and regulations, no penalties are provided for their violation, nor is it clear where the jurisdiction over crimes committed in the Park resides. For all practical purposes it is a Government reservation, and the laws of the United States governing such reservations should be extended over it. It is certainly unfair that the people shall be invited into a park set aside for their benefit and enjoyment by the national laws, and yet find when they reach it no adequate protection for their persons or property.

The only punishment it is now within the power of the Department to impose upon any offender against law or order is to remove him from the Park and prevent his return. In the case of a hunter, his outfit, under existing regulations, may be confiscated. Experience has shown

that even the latter, when enforced, is not sufficient to prevent the offenders from again perpetrating the same or a like offense. It would seem to be only necessary to invite and attract the attention of Congress to the deficiency of the law in this respect to insure its early correction. Senate bill 2436, which passed the Senate by a large majority at the last Congress, or some similar measure, should at the present Congress become a law.

The boundaries of the Park are fixed by statute, but they have never been established by actual survey. In the enforcement of the law prohibiting permanent settlement within its limits questions have arisen which have been difficult of decision without possible injustice to settlers in the absence of definitely located boundary lines. These lines should be determined by careful survey and appropriately marked, in order that the home-seeker along the borders of the Park may have notice of the limits beyond which he may not encroach. The importance of this survey is strongly urged by the acting superintendent, who states that "the present uncertainty is a constant invitation to lawless hunters and others to encroach upon the Park and adds greatly to the annoyance and labors of those charged with its protection." It has been estimated that \$10,000 would cover the expense of such survey and I recommend the appropriation of that amount, or so much thereof as may be found necessary for the purpose.

In the rectification of the boundaries, there should be included within the Park additions to the east and south, in order that one of its main purposes, that of a great game and forest preserve, should be fully carried into effect. This increase would include an area of high mountain country, unfit for agriculture and free from mineral deposits. The increase has been favorably reported on by the committees of the respective Houses.

The report of the acting superintendent contains much interesting information respecting the Park, its present condition, and needs. It appears therefrom that although the hotel accommodations during the past season were not in every respect all that could be desired, they have, however, met the demands of travel. The principal hotels are equipped with requisite conveniences and generally are well conducted. The loss by fire, on the 14th of July last, of a new hotel at Norris Geyser Basin, which is said to have cost \$60,000, was a serious misfortune to the owners, and, as it occurred at the season when the travel in the Park is greatest, occasioned at that place much discomfort and inconvenience to the visiting public.

The transportation facilities provided by lessees within the Park are reported to have been ample and of the best character. The drivers are skillful and reliable; no serious accidents occurred, and no complaints of negligence, incivility, or extortion were brought to the attention of the acting superintendent. He states that the enforcement of the regulation forbidding any person from engaging in business in the

Park without permission in writing from the Department has had the effect of ridding the park of a large number of irresponsible persons who during the summer came in to prey upon tourists.

The construction and improvement of roads and bridges is confided by law to an officer of the Engineer Corps of the Army, who will, doubtlessly, submit, through the proper channel, a report of his operations and an estimate of the amount required for his purposes during the next fiscal year. It is understood that he will recommend an appropriation of \$130,000. I concur in the suggestion of the acting superintendent that a liberal appropriation should be made for the extension of this work over portions of the Park specified in his report, to which access is now practically denied to tourists owing to the inconvenience and danger of transportation where no roads exist.

I also concur in his recommendation that the appropriation should include a reasonable amount, to be ascertained after due appraisement, for the purchase of the toll-bridge, known as Barronette's Bridge, across the Yellowstone River, on the wagon-road between Mammoth Hot Springs and Cooke City. While the exaction of toll for passage over any portion of the Park would seem to be entirely inconsistent with its design, the Department has not felt justified in prohibiting it in this case, in view of the fact that a bridge had been constructed at this point prior to the reservation of the Park and has since been maintained as a private enterprise, to accommodate the travel over this road, upon which no improvements have been made by the Government. The acting superintendent estimates for \$2,000, or so much thereof as may be necessary, to extinguish whatever title there may be in the present owners of the bridge, in order that it may be opened to free travel.

I wish especially to call the attention of Congress to the necessity of providing a contingent fund for incidental expenses in the Park. Under the last appropriation the only expenditure allowed was for roads. For the protection and care of the Government property no fund was available, nor could any amount be expended in the preservation of the objects of interest which abound in this reservation.

I submit the following estimate of appropriation for the care and management of the Park for the next fiscal year, in case it should be deemed advisable by Congress to provide for its protection by a superintendent and assistants:

For pay of superintendent.....	\$2,500
For pay of fifteen assistant superintendents, at \$1,000 each.....	15,000
For pay of one secretary.....	1,500
Incidental expenses.....	7,500
For extinguishment of Barronette's bridge claim (or so much thereof as may be awarded by a duly constituted commission appointed by the Secretary of the Interior).....	2,000
For accurately surveying and marking boundary lines in the Park.....	10,000
	<hr/>
	28,500

NEW PENSION BUILDING.

The engineer and architect (General M. C. Meigs) in charge of this work reports that the building is now substantially completed. Ground was broken preliminary to its commencement November 2, 1882, and the work had progressed sufficiently by May, 1885, to permit of the removal of a portion of the force of the Pension Office to the building. From that time thereafter, as additional room became available, the remainder of the force and records of the office were transferred, and since the 1st of December, 1885, the whole of the large force of the Pension Office, with its voluminous records and files, have been conveniently quartered in the building. The amount expended, for all purposes, upon the building to September 3, 1887, is \$836,614.04.

The report of General Meigs contains interesting information respecting the dimensions of the building, certain details of construction, the floor and air space provided, and the measures adopted with a view to secure the best results in heating and ventilating. Excellent effect is claimed for the mode of construction in the improvement in health and comfort of the employés over that experienced in rented buildings.

ARCHITECT OF THE CAPITOL.

The Architect reports that the usual repairs have been made upon the Capitol necessary to keep the building in good condition. The work of preparing for the new elevators in the Senate and House wings is well under way, and a contract has been made for the machinery and cars. The Senate boiler vaults have been extended and two steam-boilers added aggregating 312 horse-power. A fan, with steam-engine, has been provided for ventilating the kitchen of Senate restaurant. Iron shelving has been placed in a room in the House wing cellar for convenient storage of the early records of the House of Representatives, and considerable additional shelving has been provided in the law library by increasing the length of the alcoves. The work of the heating and ventilating apparatus has been generally satisfactory, the temperature of the Senate Chamber having been kept, at the last session, within an average of one degree of stationary.

The report of the Architect calls attention to the four boilers, connected with the heating apparatus of the House wing, which have been in use since 1857. The service now required of them is greatly in excess of that for which they were originally intended, and it is represented that they will be inadequate to meet the increased demand upon them in operating the new elevator, and in heating and ventilating the extensive vaults and store-rooms now being constructed. It is recommended that two new boilers of improved pattern, similar to those recently added in the Senate wing, be provided for this service.

Experiments in lighting the Senate wing by electricity having proved successful, proposals were invited for introducing electric light into the entire Senate wing, for which appropriation was made in the act of August 4, 1886. As the proposals received were all in excess of the amount appropriated, nothing has been done in the matter beyond the arrangement of the steam-pipes from the new boilers, which have been so placed as to lead to the rooms set apart for the dynamo machines. The electric-lighting plant of the House wing is reported to be in good condition.

Work has been continued upon the sections of the terrace now under contract, and a contract has been awarded for completion of the marble and granite work of the terrace and stairways in the amount of \$123,700, the north stairway to be completed by December 1, and the entire work by June 30, 1888. The large inlets running under the terraces, for fresh air to both wings of the building, have been constructed and the sewer and water pipes have been lowered and rearranged to conform to the new grade.

A brick building 30 by 57 feet, two stories in height, with wagon sheds, has been constructed at the corner of B and Third streets, southwest, in pursuance of the act of February 28, 1887, making appropriation for the construction of a stable and carpenter shop for the accommodation of the offices of the House of Representatives.

The Architect reports that, by authority of the Joint Committee on Library, improvements have been made at the Botanical Gardens as follows: The laying of a concrete walk from the Maryland avenue entrance to the Third street gate, placing new steam boiler in the camelia house, and erection of store-house for plants at the south grounds. The lawns have been filled and brought to grade and repairs to steam-heating apparatus, painting, and glazing have been done upon the conservatory and small greenhouses.

The west wing of the court-house building has been prepared for the accommodation of the Civil Service Commission, as directed in the act of August 4, 1886, and is now occupied as the offices of the Commission, and extensive repairs have been made to the old portion of the building, which has also been heated by steam. The architect states that this extension of the heating apparatus renders it necessary that provision should be made for additional vaults for storage of fuel.

COLUMBIA INSTITUTION FOR THE DEAF AND DUMB.

The president and board of directors, in their report, present a statement of the courses of instruction pursued in the institution, which is divided into two separate departments: one, the Kendall school, for the younger pupils, and the other, for those more advanced, known as the National Deaf-Mute College.

It is stated that the general aim in the course of instruction followed in the school is to give the pupil a practical understanding and com-

mand of the English language, a knowledge of the principles of arithmetic sufficiently extensive to meet his needs in business transactions, a full course in political geography and a reasonable course in history. Daily instruction is given in articulation and lip-reading to every pupil that shows capacity for vocal improvement. A number of the boys in the school receive industrial training in carpentry and cabinet work, and the girls are taught sewing and other household duties. Instruction in painting and drawing is given to pupils in both the school and college.

In the college ancient and modern languages, the higher mathematics, natural science, history, philosophy, and political science are taught.

In the past year it was decided by the directors to admit young women to the college during the coming two years as an experiment, and six have entered the introductory class.

The number of pupils remaining in the institution on the 30th of June, 1886, was 91; admitted during the last fiscal year 21, and 26 have been admitted since the close of the year, making a total of 138 under instruction, of whom 112 are males and 26 are females. Of these 61 have been in the college and 77 in the school.

INSTRUCTION OF THE BLIND.

During the year thirteen blind persons from the District of Columbia were under instruction in the Maryland Institution for the Blind, at Baltimore, admitted by authority of this Department, as provided in section 4869 of the Revised Statutes. In addition to the course of instruction usually pursued in institutions of this character the pupils are trained in music, piano tuning, or in some branch of industry adapted to their capacity with a view to enable them to earn a livelihood after they leave the school. These beneficiaries of the Government are reported by the superintendent of the institution to have made good progress in study and music and in handicraft, preparing for lives of usefulness and measurable independence. The cost to the Government for each pupil is \$300 per year, the amount paid by the State of Maryland for similar instruction. Payment for the education of the indigent blind of the District of Columbia is provided for in the "permanent annual appropriation" for that purpose.

GOVERNMENT HOSPITAL FOR THE INSANE.

The report of the Board of Visitors contains an interesting sketch of the original hospital building, the foundations of which were laid in 1853, of the structures which have been added from time to time, and of the special purpose to which each is devoted. The institution embraces a main hospital and six distinct buildings, not including the dining-hall, with fifty or more wards for the classification of 1,300 inmates in more than five hundred associate dormitories and single rooms.

The separate building for the convict and homicidal patients is now in course of construction under contract, and will be ready for occupancy before the close of the present fiscal year. Much advantage is anticipated from this important addition to the hospital in the greater security and better facilities it will afford for the safekeeping and treatment of the classes for which it is designed; but the greater benefit is expected to result to the other inmates, as it will be practicable, upon removal of the dangerous and criminal cases from the wards in which they are now distributed, to accord more freedom to the milder patients and to relieve them of many of the restrictions to which they are now necessarily subjected.

The Board of Visitors estimate that \$20,000 will be required during the next fiscal year for ordinary repairs and improvements, including care of the grounds. They refer to the growth of the institution in population and in extent of the buildings, and submit that the amount (\$10,000) which has usually been appropriated for repairs is not adequate to the present needs of the hospital. Among the items of needed repairs are mentioned the renewal of heating apparatus, the painting of the wood work of the entire west wing, renewal of interior walls, ceilings, and floors, and other repairs necessary to prevent deterioration of the buildings.

They also recommend appropriations for special improvements as follows: For an infirmary building, with accommodations for 60 cases, \$30,000; for a water-tank in the west tower of the main hospital, for storage of river water, connected with the fire-hydrant system, as an additional protection against fire, and to be used also for irrigation and sewerage, \$4,000; for a tower clock, 750; for cementing basement floor of dining hall and finishing it for a recreation room for the inmates in wet and inclement weather, \$1,200; for gardener's cottage and porter's lodge at the lower hospital entrance, \$1,200. The reasons advanced by the board in support of these recommendations would seem to be sufficient to commend them to the favorable consideration of Congress.

The following table represents the changes in population of the hospital during the year ending June 30, 1887:

	Males.	Females.	Total.
Remaining June 30, 1886	966	301	1,267
Admitted during year ending June 30, 1887	206	62	268
Whole number under treatment	1,172	363	1,535
DISCHARGED.			
Recovered	57	15	72
Improved	49	17	66
Unimproved	2	1	3
Died	73	19	92
Total discharged and died	181	52	233
Remaining June 30, 1887	991	311	1,302

FREEDMEN'S HOSPITAL.

The number of admissions to the hospital during the year was 2,254, an increase of 123 over the previous year. Of these, 789 were colored males, 816 colored females, 507 white males, and 132 white females; 3,056 persons were prescribed for in the dispensary attached to the hospital. Of the admissions, 195 were disabled ex-soldiers, who, coming to the city to look after their pension claims and being without means of support, were temporarily provided with food and shelter, and 27 were ex-soldiers delayed in the city awaiting transportation to or from the National Soldiers' Home, the latter being the only class of persons from whom any revenue is derived, the board of managers of the Home allowing a sufficient compensation to meet the cost of keeping them.

The surgeon in charge reports that the general sanitary condition of the hospital is good, and the buildings comprising the eight main wards have been thoroughly repaired under the appropriation made for that purpose at the last session of Congress.

The number of deaths was 224, which, though an increase of 8 over the previous year, the surgeon-in-chief does not regard as an excessive rate of mortality, considering the increase in number of persons admitted, and the fact that the patients are mostly from a class of persons in poor circumstances, subject to the worst hygienic and moral influences, and averse to receiving treatment unless forced to it by necessity, which is confirmed by a table submitted with his report, showing that over one-third of the total number of deaths occurred within a few days after admission.

EDUCATION OF FEEBLE-MINDED CHILDREN.

This Department is required by the act of June 16, 1880, to provide for the education of indigent feeble-minded children of the District of Columbia in some State institution, at a cost not to exceed that paid by the State for similar instruction. The amount appropriated for this purpose during the last fiscal year was \$2,500, sufficient to defray the expenses of eight beneficiaries of the act above mentioned in the Pennsylvania Institution for Feeble-minded Children at Elwyn. The appropriation for the current year is in the same amount. A number of deserving cases has been brought to the attention of the Department, but applications in their behalf for admission to the institution have necessarily been denied owing to the inadequacy of the appropriation to meet the expenses of any addition to the number now under instruction. I therefore recommend that the appropriation for this purpose be increased to \$4,500 for the next fiscal year.

WASHINGTON HOSPITAL FOR FOUNDLINGS.

The board of directors report that the institution was opened for the reception of children January 4, 1887, and that during the remaining six months of the fiscal year 20 were admitted, of whom 2 were adopted and 7 died. The average cost of maintenance per capita was 50 cents per day. This rate, it is expected, will be considerably lessened with the increase in the number of children, which it is thought will reach 50, the limit of capacity of the institution, during the current fiscal year. The directors state that the building is scantily furnished, and a considerable amount, which they hope to receive from private contributions, will be required for further equipment to provide for the increased number of inmates. They ask an appropriation by Congress of \$7,000 for maintenance of the institution during the next fiscal year.

THE TERRITORIES.

The reports submitted by the governors of the Territories are this year unusually full and interesting. They give as a whole a gratifying view of present prosperity, and express the brightest hopes for the near future. In all of the Territories there has been a considerable increase during the year in population and in wealth; the progress of the established industries of agriculture, stock-raising, and mining has been uniform and healthful, and the development of new resources varied and important.

POPULATION.

In Arizona and New Mexico the native population and that of Spanish extraction has not materially changed in numbers in the past ten years, while during that period the total population of New Mexico has increased about 20 per cent., and of Arizona more than 100 per cent. This increase represents a general movement of immigration of the most desirable character, coming in large measure from the older States of the Union, for the purpose of permanent settlement in the Territories. These new-comers, as a general rule, are taking land in small holdings, and are not seeking to build up immense estates or to establish extensive ranches. This is equally true of recent immigration in the northern Territories.

The present population of the Territories is estimated, respectively, as follows:

Arizona	90,000	New Mexico.....	160,000
Dakota	568,400	Utah.....	196,500
Idaho	97,250	Washington.....	142,391
Montana	130,000	Wyoming	85,000

Alaska has a population of 6,800 whites, 5,800 civilized natives, and 26,800 natives not civilized.

TAXABLE PROPERTY AND FINANCES.

The taxable property of the Territories is generally assessed below real value, and complaint is made of irregular and unequal assessments. In Arizona there has been an increase of \$6,000,000 during the year, and the aggregate assessed valuation is now \$26,313,500. The financial affairs of the Territory are in good condition. Territorial taxes have been reduced 1 mill. New Mexico, on the other hand, is falling heavily in debt, and the governor urges that Congressional sanction be given for the convening of a special session of the Territorial legislature to consider ways and means of relief. The taxable property of New Mexico is now \$63,000,000, an increase of \$7,000,000 during the year.

The valuable mining properties of Idaho are not taxable, growing crops are exempt, and farm products rarely appear on the assessment rolls. The total taxable property of this Territory is assessed at \$20,741,192, an increase of about \$3,000,000 over that for 1886. Idaho expects a balance in its treasury on January 1, 1888, of \$35,000 over all registered indebtedness.

Wyoming is not burdened with a public debt, except to a very limited amount, and its 6 per cent. bonds were promptly taken at a premium. Its taxable property is now \$32,089,613, and the assessment, as in other Territories, is at an undervaluation. The taxable valuation reported in Utah is but \$35,865,865.

In Dakota the taxable property has increased, in 1885, 23 per cent.; in 1886, 25 per cent.; and during the present year 20 per cent. The total assessment for the Territory for 1887 amounts to \$157,084,365. The $4\frac{1}{2}$ per cent. bonds of the Territory recently issued sold at a fractional percentage above par.

In Alaska no real estate is held in fee-simple, excepting a few lots of ground in the towns of Sitka and Kadiak provided for by treaty. The governor's estimate of the taxable property, including mines, at a fair valuation, but excluding the Alaska Commercial Company's establishment on the Seal Islands, is \$10,000,000.

DISPOSAL OF THE PUBLIC LANDS.

During the year in Dakota the lands entered under the homestead, pre-emption, and timber-culture laws aggregate 1,067,271 acres; while the area acquired by final proof and cash entry was 1,586,672 acres. In Wyoming, 303,185 acres were taken up under the various laws, and in Idaho about 350,000 acres. In Utah the total disposition of the public lands since the opening of the land office in 1869 amounts to 4,158,743.38 acres. In Arizona and New Mexico settlement on the public lands has been rapid.

AGRICULTURAL PROGRESS.

The most marked feature in the recent agricultural development of the Territories is the discovery of the astonishing fertility of large areas

heretofore supposed to be arid or desert lands, valuable only for grain purposes. Garden farms in Arizona and New Mexico yield rich tropical products in profusion, and orchards in Utah and Idaho furnish a great variety of fruits of such excellent quality that extensive shipments are already made to the eastward, and the highest prices obtained. Some of these fruit farms, yielding a considerable income to their industrious owners, occupy less than 20 acres—an area though rather a meager allowance for the sustenance of a single animal when similar lands are used as cattle ranches.

Broad grain fields in Dakota, Montana, and Washington Territory have for several years been making inroads upon the so-called "desert" lands of the cattle range, and it is now being discovered in Wyoming, Arizona, and New Mexico that a ranch will produce more cattle and a better grade of beef if divided up into small holdings in the hands of a number of enterprising farmers, than under the former system; and that the profits realized from flocks and herds in such ownership will be retained and expended in the Territory, instead of going to eastern and perhaps to foreign proprietors. The governor of New Mexico estimates that fully one-half of the entire area of that Territory is capable of successful cultivation.

STOCK RAISING.

This rapid agricultural development, as well as the heavy losses in the northern Territories from the unusual severity of last winter, together with the low prices prevalent during the year, have somewhat checked the progress of the cattle industry, so far as it is carried on upon large ranches; but great advances in other important branches of stock raising have more than counterbalanced this depression. The aggregate stock wealth of the Territories in cattle, horses, sheep, and swine has kept pace with the general progress in other respects.

In Idaho, Utah, and Wyoming much attention is being paid to the introduction of better grades in horses, cattle, and sheep. Already it is claimed that "the Utah range horse is a better animal for his weight and size than any other in market; that the mountain qualities of fine feet and lungs remain with the horse for the remainder of his career, no matter where he may go;" and that the Wyoming horses have a "strong and enduring constitution, with a clear bright eye, and a frame knit together for hard service; their feet are compact and neither too large nor too small, but round and strong, with walls and frogs to support the animal."

To the altitude and rare bracing air, the peculiarities of the soil and of the turf, as well as to care in breeding, the excellence of these horses is attributed.

MINES.

The yearly product in precious metals of Arizona is estimated at \$6,103,378; of New Mexico, in gold and silver, \$3,850,000; Dakota,

\$3,125,000; Montana, \$26,000,000; Idaho, \$7,480,000; Utah, \$6,071,000. The mines of Wyoming have not yet been largely developed, but its resources are undoubtedly rich and varied. Extensive oil fields have been discovered, promising a very large yield; but the wells have been plugged to await transportation facilities. Up to this time the greatest development of the mineral wealth of Washington Territory has been in its coal beds, which seem inexhaustible and furnish every grade of coal. In Alaska the mines on Douglass Island are producing \$100,000 in bullion per month, and the capacity of the mills is to be increased.

The mining interests of the Territories have been benefited by their recent agricultural development. This is especially true in Arizona and New Mexico, where the reduced cost of living makes possible the working of mines formerly unprofitable. The governor of Idaho urges the repeal of the alien land act so far as mining properties are concerned. He says: "Had this law been applicable to agricultural, grazing, coal and timber lands only, it would have been just and right, but the mines of Idaho are mostly undeveloped and are in the hands of poor men, who are not able to make the necessary improvements. It can not be claimed that the holding of this class of property by aliens is any serious injury to any one. It certainly results in great benefit to the miners of this Territory." The governor of Montana makes a similar recommendation.

SCHOOL LANDS.

Attention is again called to the status of school lands in the Territories. Under existing laws the sixteenth and thirty-sixth sections in all the Territories are reserved from entry and settlement. The governors unite in asking the passage of an act authorizing the leasing of these lands for the benefit of the Territorial schools. It is suggested that the lessees should be prohibited from mining, cutting timber, or committing other waste, and that the leases in each Territory respectively should terminate upon its admission to the Union as a State.

In closing this report I do not think I should let the occasion pass without acknowledging my indebtedness to Assistant Secretary Muldrow for the able advice, unremitting labors, and perfect integrity with which he has co-operated in the general administration of this office. I desire also to express my high appreciation of the zeal, efficiency, and fidelity with which the chiefs of the several bureaus, the chiefs of divisions and their respective corps of officers and employés, have discharged the trusts confided to them.

Very respectfully,

L. Q. C. LAMAR,
Secretary.

The PRESIDENT.

P A P E R S

ACCOMPANYING

REPORT OF THE SECRETARY OF THE INTERIOR

REPORT OF THE COMMISSIONER OF INDIAN AFFAIRS

DEPARTMENT OF THE INTERIOR,
OFFICE OF INDIAN AFFAIRS,
Washington, September 21, 1887.

SIR: My third annual report, which is hereby submitted, gives substantial evidence of continued progress on the part of the Indians toward civilization. This is gratifying to every American patriot and to the humanitarian of any clime or country. The progress shows itself all along the line, in increased knowledge and experience as to the arts of agriculture, in enlarged facilities for stock-growing, in better buildings and better home appointments, and in the adoption of the dress and customs of the white man. Even higher evidence of progress is given in the largely increased attendance of pupils at school, which has been greater during the past year than during any preceding year, and in the still more gratifying fact, admitted by all intelligent and close observers of Indians, that the parents desire that their children shall avail themselves of the generous opportunities for education afforded by the Government, and by kind-hearted Christian missionaries who unselfishly devote time, labor, and money to the education of Indian youth. These evidences of improvement will be treated in their proper order in the progress of this report.

ESTIMATES.

The following table shows that the estimates of appropriations required for the Indian service have been made on a descending scale for the last three years :

	Amount of estimate.	Decrease from preced- ing year.
Estimate for the year ending June 30, 1886.....	\$7,328,049.64	.....
June 30, 1887.....	6,051,259.84	\$1,276,789.80
June 30, 1888.....	5,608,873.64	442,386.20
June 30, 1889.....	5,488,897.06	119,976.58

This total decrease of nearly \$120,000 in the estimate for the fiscal year 1889 is made in the face of a very considerable increase in some of its items; such increase, amounting to nearly \$200,000, being found mainly in the items of support of schools, surveys and allotments, additional

farmers, and transportation of goods and supplies. The necessity for increasing the transportation item is the immediate result of the interstate commerce law. It is gratifying to know that the cost of the Indian service is diminishing, notwithstanding the fact that a much larger number of children are being cared for in schools than ever before, and that the expenses incident to the execution of the allotment act are necessarily heavy.

ALLOTMENT OF LAND IN SEVERALTY.

The general allotment act, the plan of which was first suggested in the annual report of this office for 1878, became a law on the 8th of February last. I have deemed it a matter of public interest and convenient reference to submit in this report not only the full text of the act, which will be found on page 274, but also an abstract of its provisions, which are as follows:

The President may, in his discretion, have any Indian reservation or any part thereof surveyed or resurveyed, and the lands of such reservation allotted in severalty to any Indian located thereon.

The size of the allotments shall be: to each head of a family, one-quarter of a section; to each single person over eighteen and each orphan under eighteen years of age, one-eighth of a section; to each other single person born prior to the date of the Presidential order directing an allotment of lands upon the reserve, one-sixteenth of a section.

If the reserve is too small to allow the giving of allotments as above, the size of allotments shall be reduced pro rata. If any treaty or act has provided for larger allotments on any reservation, the provisions of such treaty or act shall be observed. If the lands allotted are valuable only for grazing, the size of the allotments shall be doubled. If irrigation is necessary, the Secretary of the Interior may prescribe rules for a just distribution among the Indians of the water supply.

Selections of allotments shall be made by Indians, heads of families selecting for their minor children, but agents shall select for orphans. The lands selected shall embrace the improvements made thereon by the respective Indians.

If on one legal subdivision of land two or more Indians have made improvements the tract may be divided between them and a further assignment of lands be made to them to complete the amount to which each is entitled.

If within four years after the President shall have directed allotments on a reservation any Indian belonging thereto shall have failed to make his selection, the agent, or if there is none a special agent, may make the selection for such Indian, and the tract so selected shall be allotted to him.

Allotments shall be made by the agents in charge of the respective reservations, and also by special agents appointed by the President for the purpose, according to rules which the Secretary of the Interior may prescribe, and the allotments shall be certified by the agents in duplicate, one copy for the Indian and one for the Land Office files.

Any Indian not residing on a reservation, or for whose tribe no reservation has been provided, may settle upon unappropriated Government land and have the same allotted and patented to him and his children, in quantity and manner above set forth, and entry fees therefor shall be paid by the United States.

When the Secretary of the Interior shall have approved the allotments made, then patents for such lands, recorded in the General Land

Office, shall be issued to the respective allottees, declaring that the United States will hold said lands in trust for their sole use and benefit for twenty-five years, and at the end of that time will convey them without charge, to said allottees or their heirs, in fee and free of all encumbrance; the President, however, may in his discretion extend the period beyond twenty-five years.

After patents have been delivered the laws of descent and partition of the State or Territory in which the lands are located shall apply to said lands; the laws of Kansas applying to lands allotted in the Indian Territory.

After lands have been allotted to all Indians of a tribe (or sooner if the President thinks best), the Secretary of the Interior may negotiate with that tribe for the sale of any of their unallotted lands, such negotiations to be subject to ratification by Congress.

In case lands are thus sold, the purchase money to be paid therefor by the United States shall be held in the United States Treasury in trust for that tribe, at 3 per cent. interest, which interest shall be subject to appropriation by Congress for the civilization of said tribe.

Any religious society or other organization now occupying, for religious or educational work among Indians, any lands to which this act applies, may be confirmed by the Secretary of the Interior in the occupation of such lands, in quantity not exceeding 160 acres in any one tract, on such terms as he shall deem just, and so long as the organization occupies the land for the above-named purposes; but this does not alter any right heretofore granted by law to any such organization.

All lands adapted to agriculture released to the United States by Indian tribes shall be disposed of only to bona fide settlers, in tracts not exceeding 160 acres (subject to grants which Congress may make in aid of education), and no patents shall issue to any such settler or his heirs for such lands until after five years' continuous occupancy thereof as a homestead, and any conveyance of or lien on said land prior to the issuance of patent thereto shall be null and void.

After receiving his patent every allottee shall have the benefit of and be subject to the civil and criminal laws of the State or Territory in which he may reside; and no Territory shall deny any Indian equal protection of law; and every Indian born in the United States who has received an allotment under this or any other law or treaty, or who has taken up his residence separate from a tribe and adopted the habits of civilized life, is declared a citizen of the United States, but citizenship shall not impair any rights he may have in tribal property.

The provisions of this act shall not extend to the Five Civilized tribes, nor the Osages, Miamis, Peorias, and Sac and Fox in the Indian Territory, nor to the Senecas in New York, nor to the strip in Nebraska added by Executive order to the Sioux reserve.

For necessary surveys or resurveys of reservations \$100,000 is appropriated, to be repaid to the United States Treasury from proceeds of sales of such lands as may be acquired from Indians under the provisions of this act.

The power of Congress to grant right of way to railroads, other highways, or telegraph lines through Indian reservations is not impaired by this act.

At the threshold of this work, outlined above, is manifest the importance of selecting practical and competent special agents to go among the Indians and settle them peacefully and satisfactorily on their respective holdings. Many difficulties will necessarily arise on various

reservations which will call for unwearied patience, close investigation, and the utmost prudence and discretion, in order that equal and exact justice may be given all parties concerned, and in order that in the end the work may command the confidence of the Indians themselves and the approval of the Government and the public. Therefore too great haste in the matter should be avoided, and if the work proceeds less rapidly than was expected the public must not be impatient.

There is danger that the advocates of land in severalty will expect from the measure too immediate and pronounced success. Character, habits, and antecedents can not be changed by an enactment. The distance between barbarism and civilization is too long to be passed over speedily. Idleness, improvidence, ignorance, and superstition cannot by law be transformed into industry, thrift, intelligence, and Christianity. Thus the real work yet remains to be done and can be accomplished only by persistent personal effort. In fact, the allotment act instead of being the consummation of the labors of missionaries, philanthropists, and Government agents, is rather an introduction and invitation to effort on their part, which by the fact of this new legislation may be hopeful and should be energetic. Moreover, with this new policy will arise new perplexities to be solved and new obstacles to be overcome which will tax the wisdom, patience, and courage of all interested in and working for Indian advancement.

The President has wisely ordered that allotments be made only on reservations where the Indians are known to be generally favorable to the idea, and the following have thus far been selected: Papago and Pima (Salt river), Arizona; L'Anse and Vieux de Sert, Michigan; Lac Court d'Oreilles, Bad River, Red Cliff, and Lac du Flambeau, Wisconsin; Fond du Lac, Minnesota; Lake Traverse, Devil's Lake, Ponca, and Yankton, Dakota; Nez Percé, Idaho; Crow, Montana; Absentee Shawnee, Pottawatomie, Quapaw, Modoc, Ottawa, Shawnee, Seneca, and Wyandotte, Indian Territory; Winnebago, Nebraska; Siletz, Grande Ronde, and Warm Springs, Oregon; and Muckleshoot, Washington Territory.

The state of the surveys on several of the reservations where allotments have been authorized is such as to render it impracticable to commence the work at once, but surveys have been contracted for.

Six special agents have recently been appointed and assigned to duty, as follows: Col. James R. Howard, Crow reservation; Miss Alice C. Fletcher, Winnebago; Michael C. Connelly, Siletz; Isaiah Lightner, Lake Traverse; James R. West, Yankton; and N. S. Porter, Absentee Shawnee and Pottawatomie. The limited amount of the appropriation (\$15,000) for the pay of special agents prevents the employment of such agents on reservations where otherwise the work might be prosecuted.

Since the date of the last report thirty-five patents have been issued to the Indians on the Fort Madison reservation, Washington Territory, and thirty-five certificates of allotments to the Sisseton and Wahpeton Indians on the Lake Traverse reservation, Dakota.

The fourth section of the allotment act provides as follows:

That where any Indian not residing upon a reservation, or for whose tribe no reservation has been provided by treaty, act of Congress, or Executive order, shall make settlement upon any surveyed or unsurveyed lands of the United States not otherwise appropriated, he or she shall be entitled, upon application to the local land office for the district in which the lands are located, to have the same allotted to him or her, and to his or her children, in quantities and manner as provided in this act for Indians residing upon reservations; and when such settlement is made upon unsurveyed lands, the grant to such Indians shall be adjusted upon the survey of the lands so as to conform thereto; and patents shall be issued to them for such lands in the

manner and with the restrictions as herein provided. And the fees to which the officers of such local land office would have been entitled had such lands been entered under the general laws for the disposition of the public lands shall be paid to them from any moneys in the Treasury of the United States not otherwise appropriated, upon a statement of an account in their behalf, for such fees by the Commissioner of the General Land Office, and a certification of such account to the Secretary of the Treasury by the Secretary of the Interior.

In a special report, dated July 8, 1887, I had the honor to invite your attention to this particular section, and to the requirement of the law that all allotments shall be made by a special agent appointed by the President, and I suggested that, inasmuch as the Indians who will be expected to take advantage of the beneficent provisions made for them are scattered through the western States and Territories—a few here and a few there—it would be found impracticable to send a special agent into the field whenever an application should be made for an allotment under said section; and that, as the presence of a special agent in the field was not absolutely required, the work could be satisfactorily accomplished in this office, by having a special agent on duty in the office by whom allotments could be made in any part of the country without expense or unnecessary loss of time, and by whom they could be certified to the Commissioner of Indian Affairs as the act requires. I therefore recommended that Mr. Charles F. Larrabee, of the Law and Land Division of this bureau, be appointed a special agent for that purpose, and accordingly, upon your concurrent recommendation, Mr. Larrabee was appointed by the President (July 8, 1887) to make the required allotments. Rules and regulations for systematic procedure in making these allotments are now being prepared, and will shortly be published in the form of a circular, to be sent to the various district land offices in the West, together with printed forms for the use of applicants for allotments, so that Indians everywhere, living outside of reservations, who desire to avail themselves of the provisions of the said fourth section, may have every possible facility for making their desires known.

It will be less difficult for an Indian to acquire title to a home under the recent act than it was under the homestead laws. The requirements are more easily fulfilled, and can be more readily understood. As might be expected, the Indian generally finds it very difficult to comprehend our land system, but under the present law the way is made much easier for him. Any friend, citizen or soldier, can direct him to the local land office; and special agents, Indian agents, inspectors, and others connected with the Indian service, who have cases constantly appealing to them, will no doubt find in this law a much more certain and satisfactory means of protection for the Indians than they have found in any of the existing laws. I think it may safely be predicted that when the system is thoroughly in operation there will be fewer cases reported of Indians having been driven from their homes through ignorance of their rights, there will be less conflict between the races, and the wisdom of Congress in making this beneficent provision will everywhere be recognized.

I fail to comprehend the full import of the allotment act if it was not the purpose of the Congress which passed it and of the Executive whose signature made it a law ultimately to dissolve all tribal relations and to place each adult Indian upon the broad platform of American citizenship. Under this act it will be noticed that whenever a tribe of Indians or any member of a tribe accepts lands in severalty the allottee at once, *ipso facto*, becomes a citizen of the United States, endowed with all the civil and political privileges and subject to all the responsibilities and

duties of any other citizen of the Republic. This should be a pleasing and encouraging prospect to all Indians who by experience or education have risen to a plane above that of absolute barbarism. The Indian is not unlike his white brother in moral and intellectual endowments and aspirations. He is proud of his manhood, and when he comes to understand the matter he will cheerfully and proudly accept the responsibilities which belong to civilized manhood. Within a very short time many Indians will be invested with American citizenship, including of course the sacred right of the elective franchise. In fact many Indians became citizens on the date of the passage of the law, for it provides that—

Every Indian born within the territorial limits of the United States to whom allotments shall have been made under the provisions of this act or under any law or treaty, and every Indian born within the territorial limits of the United States who has voluntarily taken up, within said limits, his residence separate and apart from any tribe of Indians therein, and has adopted the habits of civilized life, *is hereby declared to be a citizen of the United States*, and is entitled to all the rights, privileges, and immunities of such citizens * * * without in any manner impairing or otherwise affecting the right of any such Indian to tribal or other property.

That hitherto, under tribal relations, the progress of the Indian toward civilization has been disappointingly slow is not to be wondered at. So long as tribal relations are maintained so long will individual responsibility and welfare be swallowed up in that of the whole, and the weaker, less aspiring, and more ignorant of the tribe will be the victims of the more designing, shrewd, selfish, and ambitious head-men. Any people, of whatever race or color, would differ little from our Indians under like conditions. Take the most prosperous and energetic community in the most enterprising section of our country—New England; give them their lands in common, furnish them annuities of food and clothing, send them teachers to teach their children, preachers to preach the gospel, farmers to till their lands, and physicians to heal their sick, and I predict that in a few years, a generation or two at most, their manhood would be smothered, and a race of shiftless paupers would succeed the now universally known “enterprising Yankee.”

This pauperizing policy above outlined was, however, to some extent necessary at the beginning of our efforts to civilize the savage Indian. He was taken a hostile barbarian, his tomahawk red with the blood of the pioneer; he was too wild to know any of the arts of civilization. Hence some such policy had to be resorted to to settle the nomadic Indian and place him under control. The policy was a tentative one, and the whole series of experiments, expedients, and makeshifts which have marked its progress have looked toward the policy now made possible and definitely established by the allotment act. Now, as fast as any tribe becomes sufficiently civilized and can be turned loose and put upon its own footing, it should be done. Agriculture and education will gradually do this work and finally enable the Government to leave the Indian to stand alone. This policy is now being entered upon with fair prospects, and I have no doubt that the provisions of the act can be steadily executed until all the Indians are brought within its benefits, and that the outcome will be all that the friends of the measure anticipated.

Of course at the beginning it must be expected that on some of the reservations a majority of the Indians will be opposed to taking lands in severalty. They are loath to give up their savage customs, and view with suspicion any innovation upon their nomadic mode of life. They are utterly ignorant of the intent or effects of the act, and in many in-

stances their minds are poisoned by false statements and their fears alarmed by selfish white men both on and off their reservations. But I am gratified to state that the more the severalty act is discussed among the Indians, the more they come to understand its operations, and the more they see members of their tribes accepting individual holdings and having houses erected, and farms fenced and cultivated, the more they are grounding their opposition to the act and signifying their wish to accept its provisions. Where but a few years ago only individual could be induced to receive homesteads, now whole tribes, with scarcely an exception in the tribe, are not only willing but anxious to have allotments, while many of the more advanced and better-informed Indians hail the act as the dawn of their emancipation from the bonds of barbarism, which for centuries have held their people in an iron grasp. That there are exceptions to this even among the more civilized Indians is true, but it is undeniable that a personal and selfish motive has been found to lie at the bottom of nearly every such instance of opposition to the allotment act which has yet come to the knowledge of the Office. In the main this opposition comes from or is instigated by squaw men and half-breeds, whose chief interest in the Indian is to drive sharp bargains with him and to make money out of his ignorance, unsuspecting confidence, and characteristic liberality and hospitality.

Other forms of opposition are met with in various quarters, but now that the policy of allotments in severalty has been determined upon and adopted, and can be changed by nothing less than a revolution in popular sentiment throughout the United States, I can not understand why white citizens should continue to agitate the subject of the impropriety and injustice of this law. This agitation, so far as it has influence, is powerless for the repeal of the law, and tends only to disquiet the more ignorant class of Indians. Surely regard for the welfare of the Indian himself ought to put a stop to such agitation, even if a patriotic respect for the almost unanimous opinion of the American people has no force with these agitators.

* * * * *

EDUCATION.

The progress made in school work during the year has been most gratifying, and the interest in education, both among Indians and their friends, has clearly received a new impetus from the passage of the law providing for lands in severalty and citizenship. To pupils, especially in the eastern schools, the meaning and hope contained in the new law has been carefully shown, and courage and enthusiasm for the future opening out before them has been evoked. The Indian student approaching manhood may now have a definiteness of purpose and a breadth of outlook sufficient to call forth his best energies and aspirations.

On page 313 will be found a table giving the name and location of every Indian school to whose support the Government contributes, the number of pupils it can accommodate, the enrollment and average attendance of its pupils, the number of employes, its cost to the Government, and the method by which it is conducted, whether by this Bureau directly or by contract or otherwise. A summary of the statistics therein contained is as follows:

There were in all 227 schools, with a capacity of 13,766, an enrollment of 14,333, and average attendance of 10,520 pupils, which have

been maintained at a cost to the Government during the past year of \$1,166,025.57.* They may be classified as follows:

There were 68 boarding-schools supported entirely by the Government, having a capacity of 5,055, an enrollment of 5,484, and an average attendance of 4,111 pupils, and costing \$548,787.65.

There were 90 day schools, having a capacity of 3,135, an enrollment of 3,115, and an average attendance of 1,896 pupils, and costing \$59,678.80.

There were five industrial training schools, conducted under the immediate supervision of the Indian Bureau, for whose support Congress makes special appropriation, and three other training schools in which the placing of Indian pupils is provided for by special appropriation, but which are managed by other than Government officials. These eight schools have had a capacity of 2,005, an enrollment of 2,137, and an average attendance of 1,828 pupils, and have cost the Government \$318,336.01.

Under contract, mainly with religious organizations, 41 boarding-schools and 20 day schools were maintained, the former having an average attendance of 2,081 pupils, and costing the Government \$228,445.58, and the latter having an average of 604 pupils, and costing \$10,777.53.

In addition to the above the Government has assisted in the support of an Indian pupil at each of the following institutions: Howard University and Wayland Seminary, in Washington; medical department of University of Pennsylvania and Woman's Medical College, in Philadelphia, and Lincoln Institute, Chester, Pa.

All the above figures relate only to schools supported in whole or in part by the Government, and if to these were added the school attendance among the five civilized tribes and the New York Indians, and the schools supported by religious societies without any expense to the Government, the figures would be largely increased. However, they would still fall far short of showing that school facilities are provided for all Indian children between the ages of six and sixteen. Such facilities should be furnished, but this point can not be reached without much larger appropriations than have heretofore been given. I hope there will be no failure to grant the small increase in the school appropriation which I have asked for next year. Advantage should be taken of the present favorable attitude of the Indians toward education.

The following comparative statement shows the advance made in Indian school work during the past five years, and it will be noticed that during the present administration there has been an increase of 27 in the number of Indian schools and an increase of 2,377 in the average attendance of pupils:

	Boarding-schools.		Day schools.	
	Number.	Average attendance.	Number.	Average attendance.
1882.....	71	2,755	54	1,311
1883.....	78	2,509	64	1,443
1884.....	86	4,358	76	1,757
1885.....	114	6,201	86	1,842
1886.....	115	7,260	90	2,370
1887.....	117	8,020	110	2,508

* This sum does not include expenditures for construction and repairs of buildings, transportation of pupils, and some miscellaneous items.

It is apparent that we have advanced far enough in the education of Indian children to be able to say that what for a time was an experiment no longer admits of uncertainty. The Indian can be educated equally with the white or the colored man, and his education is gradually being accomplished, and at a less cost per capita from year to year as the work proceeds. During the past year the average cost to the Government per annum of educating a pupil in a Government boarding-school has been about \$170; in a contract boarding-school, \$130; in a Government day school, \$53, and in a contract day school, \$30. Of course the amount paid by the Government to the contract schools is inadequate for the support and education of the pupils placed therein, and the societies conducting the schools supply the deficiency from their own resources. I take no part in the controversy as to which is the best method of having Indians educated, whether on or off reservations. One thing is clear, the Government has made a wonderfully economic move in undertaking to educate these people in any kind of schools instead of fighting them. The cost of the schools is immeasurably less than that of the wars which they supplant, to say nothing of the sacrifice of lives of both soldiers and Indians. One of the valuable results connected with the capture of Geronimo and his hostile Apaches, and the removal of his and other bands to Florida, for imprisonment there, has been the placing last spring in the Carlisle school of 106 children of those prisoners, and the gathering into schools at Saint Augustine of others who were too young to be taken away from their parents.

The following table, showing the cost of and attendance at the eight schools for which Congress makes special appropriation, may be of interest:

School.	Location.	Capacity.	Number of employes.	Number of months in session.	Enrollment.	Average attendance.	Cost.
Carlisle Training	Carlisle, Pa.	500	44	12	617	547	\$21,000.00
Chilocco Training	Chilocco, Ind. Ter.	150	26	12	197	166	\$28,544.64
Genoa Training	Genoa, Nebr.	175	23	12	215	171	\$31,204.77
Hampton Institute	Hampton, Va.	150	12	12	160	116	\$19,382.79
Haskell Institute	Lawrence, Kans.	350	36	12	339	273	\$61,532.00
Lincoln Institution	Philadelphia, Pa.	200	12	12	218	200	\$33,364.10
Salem Training	Chemawa, Oregon.	250	36	12	205	185	\$40,747.71
St. Ignatius Mission	Flathead reservation, Montana.	200	12	12	186	170	\$22,500.00
Total		2,005			2,137	1,828	\$318,336.01

* Including \$1,859.68 for buildings and repairs.

† Including \$2,117.71 for buildings and repairs.

‡ Including \$1,204.26 for buildings and repairs; \$21,590 was expended for purchase of 210 acres of land, which is not included in cost as given above.

§ Including \$3,000 for buildings and repairs.

Some of the eastern training schools have adopted a system known as "outing," which in my judgment is an important auxiliary in educating Indian youth and preparing them for self-support. It is notably carried on at the Carlisle school, which, without disparaging other Indian training schools, may be said to stand in the front rank, if it is not the foremost, of institutions engaged in the great work of Indian education. This system consists in placing out for a series of months among the families of farmers in that part of Pennsylvania, boys and girls who have had a year or so of training at Carlisle, and can make the most of the advantages thus afforded them for learning practical farming, the use

schools, and thrifty housekeeping. In addition to their board they receive fair wages for their labor—from \$5 to \$8 per month for farm work—as members of the household are admitted to the privileges enjoyed by the sons and daughters of the family. In some cases they remain a year at these places, attending district school in the winter. Such a training upon a farm is the best possible way of fitting them for the ownership and cultivation of the lands which are being allotted them by the Government. This experience, taken in connection with their training and education at school, places them beyond all reasonable doubt upon a footing of self-support. Under this system 299 Carlisle pupils have spent more or less time in private families during the past year.

* * * * *

The total enrollment of pupils for the past year in schools more or less dependent on the Government has already been stated as 14,333, a number larger than can properly be accommodated in the buildings provided. In its efforts to increase school accommodations the office is seriously hampered and often times thwarted by the restriction of law in the appropriation act which limits the amount to be paid for erecting and furnishing a boarding-school building to \$10,000, and for erecting a day-school building to \$600. In many localities, remote from the labor supply, and where materials must be hauled a long distance, it is impossible to erect and furnish for this sum a building large enough to accommodate even 60 pupils. On four reservations children will be kept out of school this year because, after wide advertisement, the office has failed to secure bids on the proposed and much needed buildings; that is, bids within the \$10,000 limit. The plans were for buildings of the plainest sort and of construction as cheap as was consistent with strength and safety, and for a smaller number of children than were ready to attend. It would be in the interest of Indian education and of ultimate economy if Congress would remove this restriction, so that the office might be able to provide at an early day buildings, plain but substantial, and large enough to accommodate in a proper way the children who in ten years will have passed the time of pupilage, and under new conditions will be called upon to compete for a livelihood with the educated race. For a statement of the expenditures made from the appropriation of last year for buildings and repairs see page 313.

I have already referred incidentally to the indispensable work done in the way of Indian education by the various religious organizations of the country. Although it discredits the Government, it is but just to say that for some years past these societies have put more money into Indian school buildings than the Government has expended for that purpose, and the increase in the number of children attending school is in no small degree due to the fact that places in which to teach the children have been provided from other than Government funds. Moreover, as has already been stated, in the maintenance of schools so established the societies draw largely from their own funds to supplement the allowance granted these schools by the Government. In assisting in the support of such schools the office has been entirely non-sectarian, and all the leading denominations of the country are represented in Indian school work.

For four years past the Indian appropriation act has contained an item of \$15,000 or \$20,000, providing for the education of Indian pupils in industrial schools in Alaska. In 1884, when the first of these appropriations was made, no educational facilities whatever had been provided for the inhabitants of Alaska, except one or two small schools

established and supported by religious societies. The schools established by the Russian Government had of course been discontinued, and the American Government had provided no substitutes. As a temporary expedient the Indian Office asked that it be allowed at least to make a beginning in school work among the Indians of that country, and the small sums named above were appropriated accordingly. The small appropriation for so distant a work made it impracticable for the office to send a representative to Alaska, who should establish and keep in operation a system of schools for the widely scattered bands of Alaska Indians, and its efforts in that direction have been confined to assisting various societies in establishing new schools and in enlarging and improving those already established.

However, the Alaska Indians, so called, are hardly to be looked upon as Indians in the sense in which the word is applied to the tribes on our western reservations. They are Alaskans, the native people of the land, who know how to support themselves by the resources of the country and the industries naturally arising therefrom, are ready to engage in any other industries which may be established there and to assimilate the customs of those who come to settle among them, and are anxious to be educated. They are the laboring class, which needs neither corraling nor feeding nor agencies nor any of the machinery which has sprung up in connection with our Indian service, and to attempt to foist upon them this machinery would be to ignore all the lessons which the last half century of dealings with Indians should have taught this nation, and to repeat over again the old blunders and errors in Indian management.

Within the last two years I am informed that by using small Government appropriations for that purpose the Bureau of Education has undertaken to establish a public school system, not for the whites and not for the Indians, but for the *people* of Alaska, and, in my judgment, this is the proper course to pursue. The amount appropriated I understand to be inadequate. In my estimates for the next fiscal year I have not included the usual item for Indian schools in Alaska, because I believe that it would be much better for Congress to add this sum to the sum allowed for general education there, and to place the entire educational system of Alaska under the management of the Bureau of Education, which has its own officials on the ground, and is now better equipped than the Indian Office will ever be for the prosecution of such work.

THE ENGLISH LANGUAGE IN INDIAN SCHOOLS.

In the report of this office for 1885 incidental allusion was made to the importance of teaching Indians the English language, the paragraph being as follows:

A wider and better knowledge of the English language among them is essential to their comprehension of the duties and obligations of citizenship. At this time but few of the adult population can speak a word of English, but with the efforts now being made by the Government and by religious and philanthropic associations and individuals, especially in the Eastern States, with the missionary and the school-master industriously in the field everywhere among the tribes, it is to be hoped, and it is confidently believed, that among the next generation of Indians the English language will be sufficiently spoken and used to enable them to become acquainted with the laws, customs, and institutions of our country.

The idea was not a new one. As far back as 1863 the commission known as the "Peace Commission," composed of Generals Sherman, Harney, Sanborn, and Terry, and Messrs. Taylor (then Commissioner of Indian Affairs), Henderson, Tappan, and Augur, embodied in the report of their investigations into the condition of Indian tribes their

matured and pronounced views on this subject, from which I make the following extracts :

The white and Indian must mingle together and jointly occupy the country, or one of them must abandon it. * * * What prevented their living together ? * * * Third. The difference in language, which in a great measure barred intercourse and a proper understanding each of the other's motives and intentions. Now, by educating the children of these tribes in the English language these differences would have disappeared, and civilization would have followed at once. Nothing then would have been left but the antipathy of race, and that, too, is always softened in the beams of a higher civilization. * * * Through sameness of language is produced sameness of sentiment, and thought; customs and habits are moulded and assimilated in the same way, and thus in process of time the differences producing trouble would have been gradually obliterated. By civilizing one tribe others would have followed. Indians of different tribes associate with each other on terms of equality; they have not the Bible, but their religion, which we call superstition, teaches them that the Great Spirit made us all. In the difference of language to-day lies two-thirds of our trouble. * * * Schools should be established, which children should be required to attend; their barbarous dialect should be blotted out and the English language substituted. * * * The object of greatest solicitude should be to break down the prejudices of tribe among the Indians; to blot out the boundary lines which divide them into distinct nations, and fuse them into one homogeneous mass. Uniformity of language will do this—nothing else will.

In the regulations of the Indian Bureau issued by the Indian Office in 1880, for the guidance of Indian agents, occurs this paragraph :

All instruction must be in English, except in so far as the native language of the pupils shall be a necessary medium for conveying the knowledge of English, and the conversation of and communications between the pupils and with the teacher must be, as far as practicable, in English.

In 1884 the following order was issued by the Department to the office, being called out by the report that in one of the schools instruction was being given in both Dakota and English :

You will please inform the authorities of this school that the English language only must be taught the Indian youth placed there for educational and industrial training at the expense of the Government. If Dakota or any other language is taught such children, they will be taken away and their support by the Government will be withdrawn from the school.

In my report for 1886 I reiterated the thought of my previous report, and clearly outlining my attitude and policy I said :

In my first report I expressed very decidedly the idea that Indians should be taught the English language only. From that position I believe, so far as I am advised, there is no dissent either among the law-makers or the executive agents who are selected under the law to do the work. There is not an Indian pupil whose tuition and maintenance is paid for by the United States Government who is permitted to study any other language than our own vernacular—the language of the greatest, most powerful, and enterprising nationalities beneath the sun. The English language as taught in America is good enough for all her people of all races.

Longer and closer consideration of the subject has only deepened my conviction that it is a matter not only of importance, but of necessity that the Indians acquire the English language as rapidly as possible. The Government has entered upon the great work of educating and citizenizing the Indians and establishing them upon homesteads. The adults are expected to assume the role of citizens, and of course the rising generation will be expected and required more nearly to fill the measure of citizenship, and the main purpose of educating them is to enable them to read, write, and speak the English language and to transact business with English-speaking people. When they take upon themselves the responsibilities and privileges of citizenship their vernacular will be of no advantage. Only through the medium of the English tongue can they acquire a knowledge of the Constitution of the country and their rights and duties thereunder.

Every nation is jealous of its own language, and no nation ought to be more so than ours, which approaches nearer than any other nationality to the perfect protection of its people. True Americans all feel that the Constitution, laws, and institutions of the United States, in their adaptation to the wants and requirements of man, are superior to those of any other country; and they should understand that by the spread of the English language will these laws and institutions be more firmly established and widely disseminated. Nothing so surely and perfectly stamps upon an individual a national characteristic as language. So manifest and important is this that nations the world over, in both ancient and modern times, have ever imposed the strictest requirements upon their public schools as to the teaching of the national tongue. Only English has been allowed to be taught in the public schools in the territory acquired by this country from Spain, Mexico, and Russia, although the native populations spoke another tongue. All are familiar with the recent prohibitory order of the German Empire forbidding the teaching of the French language in either public or private schools in Alsace and Lorraine. Although the population is almost universally opposed to German rule, they are firmly held to German political allegiance by the military hand of the Iron Chancellor. If the Indians were in Germany or France or any other civilized country, they should be instructed in the language there used. As they are in an English-speaking country, they must be taught the language which they must use in transacting business with the people of this country. No unity or community of feeling can be established among different peoples unless they are brought to speak the same language, and thus become imbued with like ideas of duty.

Deeming it for the very best interest of the Indian, both as an individual and as an embryo citizen, to have this policy strictly enforced among the various schools on Indian reservations, orders have been issued accordingly to Indian agents, and the text of the orders and of some explanations made thereof are given below :

DECEMBER 14, 1886.

In all schools conducted by missionary organizations it is required that all instructions shall be given in the English language.

FEBRUARY 2, 1887.

In reply I have to advise you that the rule applies to all schools on Indian reservations, whether they be Government or mission schools. The instruction of the Indians in the vernacular is not only of no use to them, but is detrimental to the cause of their education and civilization, and no school will be permitted on the reservation in which the English language is not exclusively taught.

JULY 16, 1887.

Your attention is called to the regulation of this office which forbids instruction in schools in any Indian language. This rule applies to all schools on an Indian reservation, whether Government or mission schools. The education of Indians in the vernacular is not only of no use to them, but is detrimental to their education and civilization.

You are instructed to see that this rule is rigidly enforced in all schools upon the reservation under your charge.

No mission school will be allowed upon the reservation which does not comply with the regulation.

The following was sent to representatives of all societies having contracts with this bureau for the conduct of Indian schools:

JULY 16, 1887.

Your attention is called to the provisions of the contracts for educating Indian pupils, which provides that the schools shall "teach the ordinary branches of an English education." This provision must be faithfully adhered to, and no books in any Indian language must be used or instruction given in that language to Indian pupils in any

and where this office has entered into contract for the education of Indians. The same rule prevails in all Government Indian schools and will be strictly enforced in contract and other Indian schools.

The instruction of Indians in the vernacular is not only of no use to them, but is detrimental to the cause of their education and civilization, and it will not be permitted in any Indian school over which the Government has any control, or in which it has any interest whatever.

This circular has been sent to all parties who have contracted to educate Indian children during the present fiscal year.

You will see that this regulation is rigidly enforced in the schools under your direction where Indians are placed under contract.

I have given the text of these orders in detail because various misrepresentations and complaints in regard to them have been made, and various misunderstandings seem to have arisen. They do not, as has been urged, touch the question of the preaching of the Gospel in the churches nor in any wise hamper or hinder the efforts of missionaries to bring the various tribes to a knowledge of the Christian religion. Preaching of the Gospel to Indians in the vernacular is, of course, not prohibited. In fact, the question of the effect of this policy upon any missionary body was not considered. All the office insists upon is that in the schools established for the rising generation of Indians shall be taught the language of the Republic of which they are to become citizens.

It is believed that if any Indian vernacular is allowed to be taught by the missionaries in schools on Indian reservations, it will prejudice the youthful pupil as well as his untutored and uncivilized or semi-civilized parent against the English language, and, to some extent at least, against Government schools in which the English language exclusively has always been taught. To teach Indian school children their native tongue is practically to exclude English, and to prevent them from acquiring it. This language, which is good enough for a white man and a black man, ought to be good enough for the red man. It is also believed that teaching an Indian youth in his own barbarous dialect is a positive detriment to him. The first step to be taken toward civilization, toward teaching the Indians the mischief and folly of continuing in their barbarous practices, is to teach them the English language. The impracticability, if not impossibility, of civilizing the Indians of this country in any other tongue than our own would seem to be obvious, especially in view of the fact that the number of Indian vernaculars is even greater than the number of tribes. Bands of the same tribes inhabiting different localities have different dialects, and sometimes can not communicate with each other except by the sign language. If we expect to infuse into the rising generation the leaven of American citizenship, we must remove the stumbling-blocks of hereditary customs and manners, and of these language is one of the most important elements.

I am pleased to note that the five civilized tribes have taken the same view of the matter and that in their own schools—managed by the respective tribes and supported by tribal funds—English alone is taught.

But it has been suggested that this order, being mandatory, gives a cruel blow to the sacred rights of the Indians. Is it cruelty to the Indian to force him to give up his scalping-knife and tomahawk? Is it cruelty to force him to abandon the vicious and barbarous sun dance, where he lacerates his flesh, and dances and tortures himself even unto death? Is it cruelty to the Indian to force him to have his daughters educated and married under the laws of the land, instead of selling them at a tender age for a stipulated price into concubinage to gratify the brutal lusts of ignorance and barbarism?

Having been governed in my action solely by what I believed to be the real interests of the Indians, I have been gratified to receive from eminent educators and missionaries the strongest assurance of their hearty and full concurrence in the propriety and necessity of the order. Two of them I take the liberty to append herewith. (The first is from a former missionary among the Sioux; the second from an Indian agent of long experience, who has been exceedingly active in pushing the educational interests of his Indians.

As I understand it, your policy is to have the Indian taught English instead of his mother tongue. I am glad you have had the courage to take this step, and I hope you may find that support which the justice and rightness of the step deserve. Before you came to administer the affairs of the country the Republicans thought well to undertake similar work in the Government schools, but lacked the courage to touch the work of the mission schools where it was needed. If the wisdom of such work was recognized in the Government schools, why not recognize the wisdom of making it general? When I was in Dakota as a missionary among the Sioux, I was much impressed with the grave injustice done the Indian in all matters of trade, because he could not speak the language in which the trade was transacted. This step will help him out of the difficulty and lift him a long way nearer equality with the white man.

Seeing there is now being considerable said in the public press about the Indian Office prohibiting the teaching of the vernacular to the Indians in Indian schools, and having been connected with the Indian service for the past sixteen years, eleven years of which I have been Indian agent and had schools under my charge, I desire to state that I am a strong advocate of instruction to Indians in the English language only, as being able to read and write in the vernacular of the tribe is but little use to them. Nothing can be gained by teaching Indians to read and write in the vernacular, as their literature is limited and much valuable time would be lost in attempting it. Furthermore, I have found the vernacular of the Sioux very misleading, while a full knowledge of the English enables the Indians to transact business as individuals and to think and act for themselves independently of each other.

As I understand it, the order applies to children of school-going ages (from six to sixteen years) only, and that missionaries are at liberty to use the vernacular in religious instructions. This is essential in explaining the precepts of the Christian religion to adult Indians who do not understand English.

In my opinion schools conducted in the vernacular are detrimental to civilization. They encourage Indians to adhere to their time-honored customs and inherent superstitions which the Government has in every way sought to overcome, and which can only be accomplished by adopting uniform rules requiring instruction in the English language exclusively.

I also append an extract on this subject from one of the leading religious weeklies :

English is the language overwhelmingly spoken by over sixty millions of people. Outside of these, there are two hundred thousand Indians old enough to talk who use a hundred dialects, many of which are as unintelligible to those speaking the other dialects as Sanscrit is to the average New England schoolboy. Why, then, should instruction in these dialects be continued to the youth? Why, indeed? They are now in the teachable age; if they are ever to learn English they must learn it now—not when they have become men with families, knowing no other tongue than their own dialect, with its very limited resources, a dialect wholly unadapted to the newer life for which they are being prepared. And they must learn English. The Indians of Fenimore Cooper's time lived in a *terra incognita* of their own. Now all is changed; every Indian reservation in the country is surrounded by white settlements, and the red man is brought into direct contact and into conflict with the roughest elements of country life. It is clear, therefore, the quarter of a million of red men on this continent can be left to themselves no longer. * * *

There are pretty nearly ten thousand Indian boys and girls who avail themselves of educational privileges. We want to keep right along in this direction; and how can we do so but by beginning with the youth and instructing them in that language by using which alone they can be qualified for the duties of American citizenship?

If the Indian is always to be a tribal Indian and a foreigner, by all means see to it that he learns his own tongue, and no other. But if he is to be fitted for American citizenship how shall he be better fitted than by instructing him from his youth in the language of his real country—the English tongue as spoken by Americans.

As events progress, the Indians will gradually cease to be inclosed in reservations; they will mingle with the whites. The facilities of travel are being as greatly extended by rail, by improved roads and increasing districts of settlement that this intercourse between whites and Indians must greatly increase in future—but how shall the Indian profit by it if he is ignorant of the English tongue? It is said that missionaries can not instruct at all in the Dakota tongue. We do not so understand it. To say no instruction can be had, nor any explanation of truth given in the Dakota or the Indian tongue, is to declare what the Commissioner has not said at all. On the whole, when sober reflection shall have been given to the subject, we think many who have assailed the Indian Bureau for its recent order will see and will acknowledge that the action taken by the Interior Department is wise, and that it is absolutely necessary if the Indian is ever to be fitted for the high duties of American citizenship.

AGRICULTURE.

There are three tests which particularly mark the advance of Indians toward civilization, viz, the adoption of the dress of the white man, engaging in agriculture, and the education of their children. In reference to the first, I may say that marked improvement is continuously observable among most of the tribes, some tribes having entirely disregarded their aboriginal style of dress. But this evidence of dawning civilization is far less noteworthy and significant of advancement than evidence given along the other two lines of progress. Of education I have already spoken. I desire here to call attention to the progress which the Indians have made in farming during the past year.

Twenty-three thousand acres of new land have been broken by Indians this year, being 3,000 acres more than the amount broken last year. The Indians have themselves erected about 1,200 new houses, in addition to a considerable number erected for them by the Government.

Inspectors, special agents, and agents report farms to be in better order and the cultivation of them to be more intelligent and systematic, and agricultural tools and machinery and stock to be better protected and cared for than ever before. In many instances orchards are being planted, farm products are taken to market for sale, and numerous other evidences of thrift and homelife show themselves among the more advanced Indians. In fact, the Indian is beginning to realize that he is a man, and not an animal to be hunted and shot down by some desperado who wants his land, range, and stock. The Indians as a race in the United States are alive to the fact that they are land owners and that soon they must derive a living for themselves and families by cultivating the land with their own hands.

I regret that I cannot report an increase in the total amount of crops harvested. On many reservations the protracted drought of this season has been severely felt, and owing to more remote locations and indifferent tillage the crops of Indians have suffered rather more heavily than those of white men in the same vicinity in the West. On reservations where the climatic conditions have been favorable the Indians have made a most creditable showing in the quantity of produce raised.

I do not anticipate that loss of crops will cause serious suffering. With the supplies furnished by Government the great mass of the Indians will be amply provided, and where this is not the case timely precaution will be taken to guard against anything like destitution. In case of the Peorias and consolidated tribes in the Indian Territory, such provision has already been made, and authority has been granted allowing them to expend for subsistence supplies, to tide them over this year, \$10,000 of their invested school fund, authority for such diversion of the fund being contained in their treaty of February 23, 1867.

JURISDICTION OF CRIMES COMMITTED BY INDIANS.

For the third time I am compelled to call attention to the defects in the ninth section of the act of March 3, 1885 (23 Stats., 385), providing for the punishment of certain crimes committed by Indians, Congress having failed to enact the legislation necessary to correct the same.

The Territories should be relieved of the expenses incident to the enforcement of the law, and its extension to that portion of the Indian Territory not covered by the laws of the five civilized tribes is of the greatest importance.

COURTS OF INDIAN OFFENSES.

The value and assistance of these courts continues to be recognized by agents and others connected with the Indian service, and I renew my recommendation of last year that they be placed upon a legal basis by an act of Congress authorizing their establishment under such rules and regulations as the Secretary of the Interior may prescribe, and that an appropriation of \$5,000 be made for the payment of judges. In view of the fact that many of the Indians under the care of Indian agents have been made citizens by the general allotment act, the legal establishment and recognition of these courts becomes of greater importance than heretofore, in order that no question of jurisdiction may be raised. I trust that the necessary legislation may be obtained at the coming session of Congress.

PEACE AND ORDER AMONG INDIAN TRIBES.

I mention with unfeigned pleasure the fact that no Indians under the supervision of the Interior Department* have been on the war path during the last three years. The few San Carlos Apaches, who, a short time ago under the influence of whisky, killed one or two men and were chased by the soldiers back to the reservation and were finally arrested and punished, were not on what is styled the "war path." They were drunken desperadoes, like thousands of drunken desperadoes of our cities and towns. They had no organization or object in their lawlessness.

Every day the Indian is having more confidence in the white man and in himself. Many of them express sentiments of gratitude to the Government for its protection, sympathy, and support, and truly the American historian may be indulged in a little patriotic laudation in contemplating the general course of the Government toward these people. It is true that many, very many, acts of injustice, cruelty, and rapacity have been committed by individuals, companies, or organized bodies of white people against the Indians (and doubtless in some instances by way of retaliation), but the action of the Government has been in the main kind, generous, and fatherly toward this unfortunate race. And to-day there is a great conservative and sympathetic sentiment among the good men and women of this country standing behind the Government and urging it on and substantially assisting it in the work of Indian civilization. The President of the United States, who

* The Apaches under Natchez, Geronimo, and others who were removed to Florida last year have not been under the care of the Interior Department since 1883.

has a constituency of sixty millions, never uttered a sentiment more reflective of the will of the people than when he said:

The conscience of the people demands that the Indians within our boundaries shall be fairly and honestly treated, as wards of the Government, and their education and civilization promoted with a view to their ultimate citizenship.

The justice and humanity of the Government have called out even from that wildest of tribes, the Apaches, expressions of appreciation and approval of the course pursued by the authorities in removing to a remote place in the States, the small warlike band under Natchez and Geronimo.

If we except the lawlessness, rapine, and murder among the five civilized tribes, I do not hesitate to say that statistics will attest the fact that, in proportion to population, not half as many murders are committed among Indians as among white people, taking any State of this Union for comparison. It is true that under strict police surveillance the Indians are kept, so far as possible, from the influence of intoxicating liquors. Possibly this may account for the comparatively few murders committed. Be that as it may, the fact remains that in the matter of crime and lawlessness the Indian does not suffer by comparison with his white brother.

* * * * *

Very respectfully, your obedient servant,

J. D. C. ATKINS,
Commissioner.

The SECRETARY OF THE INTERIOR.

REPORT OF THE COMMISSIONER OF THE GENERAL LAND OFFICE.

DEPARTMENT OF THE INTERIOR,
GENERAL LAND OFFICE,
Washington, D. C., September 28, 1887.

SIR: I have the honor to submit herewith the annual report of the General Land Office for the fiscal year ended June 30, 1887.

The policy which I have endeavored in preceding years to carry out of reforming the administration of the land laws to the protection of *bona fide* settlers, the suppression of fraud, the prevention of land monopoly, the recovery of public lands illegally seized or dominated, and the preservation of the public domain for actual inhabitancy by the people of the country, has been steadily maintained during the past year, and has met with increased approval from all classes of honest and law-abiding citizens, especially from settlers seeking actual homes on public lands.

I have no word to recall that has hitherto been uttered touching the aggravated misappropriations to which public lands have been subjected through improvident laws and inefficient methods of administration, and to which they are still exposed under present wasteful and fraud-inspiring systems of disposal.

To prevent the despoilment and unlawful acquisition of the public domain, and to restore to the people, whose heritage it is, land fraudulently obtained or illegally held, have been objects constantly in view, and there is no regret to express or apology to offer that efforts to accom-

plish that purpose have aroused the hostility of a class of men with whose interests they have been in conflict.

The operations of the past year, as previously, have been conducted under the discouragement of inadequate appropriations; but with the limited means at my disposal results have been achieved that confirm the early statements of the vastness of this field of reform, the confines only of which have yet been fairly explored.

The following statement shows the amount of public land restored to the public domain since March 4, 1885, and the amounts now pending action for recovery under recommendations from this office:

LANDS RESTORED TO THE PUBLIC DOMAIN.

	Acres.	Acres.
Area within railroad limits.....	8,958,177.33	
Area within railroad indemnity limits.....	21,323,600.00	
Private land claims.....	576,000.00	
Fraudulent entries canceled.....	400,000.00	
Invalid swamp and other State selections canceled.....	566,704.46	
Total restored to the public domain.....		31,824,481.79

RECOVERY OF LANDS WITHIN RAILROAD LIMITS RECOMMENDED AND PENDING.

For review of Secretary's decision.....	12,300.00	
Suits recommended for recovery of lands within railroad limits.....	592,085.34	
Land adjudged by Commissioner to be subject to recovery under the adjustment of railroad grants so far as such adjustments have been completed.....	*2,897,869.85	
Recommendations made to Congress to reject private land claims heretofore reported favorably.....	4,732,479.91	
Surveys ordered reducing areas of private land claims..	629,500.00	
Suits to vacate private land patents.....	635,255.00	
Total.....		9,499,490.10
Total.....		41,323,971.89

ABSTRACT OF DISPOSALS AND RECEIPTS DURING THE FISCAL YEAR ENDED JUNE 30, 1887.

The sales, entries, and selections of public land under the various acts of Congress relating thereto embrace 25,111,400.84 acres, and of Indian lands 746,637.29 acres, making a total of 25,858,038.13 acres; being an increase over the year 1886 of 3,733,474.21 acres, and an increase of 4,862,524.55 acres as compared with the fiscal year 1885.

The receipts from the disposals of public lands are \$10,783,921.72; from sales of Indian lands, \$1,484,302.30—a total of \$12,268,224.02; being an increase as compared with the year 1886 of \$3,247,727.08, and an increase of \$3,648,625.70 as compared with the fiscal year 1885; to which is to be added \$8,291 received on account of timber depredations and \$12,493.85 received for certified copies of records furnished by the General Land Office, making the total receipts for the year from all sources \$12,289,008.87.

The following is a statement in detail:

CASH SALES.

	Acres.
Public sales.....	171.38
Private entries.....	1,523,546.77
Pre-emption entries.....	3,172,411.80

* This item will be materially reduced by recent decision of the department if adhered to.

REPORT OF THE SECRETARY OF THE INTERIOR.

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	Acres.
Timber and stone land entries.....	80,622.19
Desert land entries.....	753,371.11
Mineral land entries.....	27,664.91
Coal land entries.....	11,461.58
Townsite entries.....	399.89
Excesses on homestead and other entries.....	17,432.41
Abandoned military reservations.....	828.09
Total.....	5,587,910.13

MISCELLANEOUS.

	Acres.
Homestead entries (original).....	7,594,350.16
Timber-culture entries (original).....	4,224,397.83
Entries with military bounty-land warrants.....	18,775.27
Entries with Sioux half-breed scrip.....	240.00
Entries with private land scrip (Supreme Court).....	2,879.96
Entries with Valentine scrip.....	160.00
State selections (swamp indemnity).....	15,273.74
State selections (school and internal improvements).....	369,346.92
Railroad selections.....	5,571,807.33
Wagon-road selections.....	65,923.47
State swamp selections (original).....	1,658,887.30
Donation entries.....	1,448.73
	19,523,490.71
Total area of public land entries and selections.....	25,111,400.84

INDIAN LANDS.

	Acres.
Cherokee school lands.....	324.44
Kansas trust and diminished reserve lands.....	1,636.23
Osage trust and diminished reserve lands.....	658,154.65
Omaha lands.....	1,823.76
Sioux lands.....	8,880.22
Ute lands.....	75,817.99
	746,637.29
Making a grand total of.....	25,858,038.13

The foregoing does not include the following entries, the areas of which have previously been reported in the original entries of the respective classes:

	Acres.
Commuted homesteads (section 2301 R. S.).....	1,542,516.37
Commuted homesteads (act June 15, 1880).....	36,191.35
Final desert-land entries.....	246,736.46
Final homestead entries.....	2,749,037.48
Final timber-culture entries.....	204,619.62
Total.....	4,779,101.28

In addition to the foregoing, and not included in the total areas of current sales, entries, and selections, are pre-emption, homestead, and miscellaneous filings, viz:

	Number.
Pre-emption filings.....	43,825
Soldiers' declaratory statements.....	1,563
Filings upon Indian lands.....	3,666
Miscellaneous filings.....	7,971
Total.....	57,015

The area of land embraced in these filings aggregate 7,700,000 acres.

CASH RECEIPTS.

From cash sales.....	\$9,246,321.33
From homestead fees and commissions.....	847,442.07
From timber-culture fees and commissions.....	363,128.00
From military bounty-land warrant locations.....	592.00
From fees on scrip locations.....	63.00
From pre-emption and other filings.....	143,538.00
From fees for reducing testimony to writing.....	88,945.00
From fees on donation claims.....	45.00
From fees on State selections.....	4,193.00
From fees on swamp indemnity selections.....	182.00
From fees on railroad selections.....	69,642.71
From fees on wagon-road selections.....	324.33
Total receipts from public lands.....	10,783,981.77
Receipts from disposal of Indian lands.....	1,484,302.30
Receipts from timber depredations.....	8,291.00
Receipts from fees for transcripts of record furnished.....	12,493.05
Total.....	12,289,068.07

ENTRIES AND FILINGS.

The total number of entries and filings made during the year is 248,178, aggregating 38,337,039.41 acres; an increase of 1,770 entries and filings over the year 1886, and an increase of 6,654 entries and filings as compared with the fiscal year 1885.

The number of entries and filings posted on the records is 340,117, an increase, as compared with the year 1886, of 14,203.

CASH SALES.

The number of private cash entries is 8,565, embracing 1,523,546.77 acres, an increase of 891,565.41 acres. Final proof was made upon 21,403 pre-emption claims, embracing 3,172,411.80 acres, being an increase of 893,193.41 acres; 1,578,707.72 acres are embraced in commuted homesteads, an increase of 713,578.54 acres.

The total cash sales, including land sold at public and private sale, pre-emption, commuted homestead, mineral lands, timber and stone lands, etc., amount to 7,413,354.31 acres.

The amount received from cash sales is \$9,246,321.33, an average of a fraction over \$1.24 per acre, or \$1.35+, exclusive of original desert-land entries.

PUBLIC SALES.

Four tracts of land, embracing 171.38 acres, were sold at public sale in the various land districts at an average price of a fraction over \$118.97 per acre.

HOMESTEAD ENTRIES.

The number of original homestead entries made during the year is 52,028, embracing an area of 7,594,350.16 acres; a decrease, as compared with the year 1886, of 9,610 entries and 1,550,785.60 acres.

Final proof was made on 19,866 entries, embracing 2,749,037.48 acres, an increase of 510 entries and 85,505.65 acres. One thousand five hundred and fifty-three soldiers' declaratory statements were filed, covering 248,480 acres.

TIMBER-CULTURE ENTRIES.

Twenty-seven thousand seven hundred and twenty-seven timber-culture entries were made, embracing 4,224,397.83 acres, a decrease of 7,269 entries and 1,166,911.55 acres.

Final proof was offered on 1,479 entries, embracing 204,619.62 acres.

PRE-EMPTION ENTRIES.

Twenty-one thousand four hundred and three pre-emption entries were made during the year, embracing an area of 3,172,411.80 acres, an increase of 5,691 entries and 893,193.41 acres. The number of pre-emption cases remaining unacted upon at the close of the fiscal year was 59,949.

DESERT LAND ENTRIES.

Two thousand two hundred and forty-two desert-land entries were made, embracing 751,014.09 acres, a decrease of 276 entries and 2,674.54 acres.

Final proof was made on 783 entries, embracing 246,736.46 acres.

TIMBER AND STONE LAND ENTRIES.

Six hundred and fifty-five entries, embracing 80,622.19 acres, were made under the timber and stone land act of June 3, 1878, in the States of California and Oregon and Washington Territory (to which States and the State of Nevada the act is only applicable), being an increase of 226 entries and 29,928.57 acres as compared with 1886.

AGRICULTURAL PATENTS.

The number of patents issued during the year upon agricultural lands was 24,558.

MINERAL LAND ENTRIES.

One thousand three hundred and thirty-two mineral entries, embracing 28,787.82 acres, were made, and 1,363 mineral applications filed. This includes 7 entries and 1,121.91 acres of Ute Indian lands.

One hundred and seventy-eight adverse claims were filed against entries of mineral lands.

There were 84 coal entries, embracing 11,461.58 acres, and 530 coal filings.

The above is a decrease of 19 entries and an increase of 7,400.37 acres of mineral lands, a decrease of 26 mineral applications, and an increase of 7 in the number of coal-land entries, with an increased area of 1,294.21 acres. There was also a decrease of 53 in the number of adverse claims, and a decrease of 135 coal filings.

Eighteen hundred and nineteen recent *ex parte* mineral cases have been examined, and 176 re-examined; 97 old suspended *ex parte* mineral cases have been examined or re-examined; 198 contest cases considered and decisions rendered; 143 mineral contest cases disposed of; 1,493 lode, lode and mill-site, mill-site and placer claims patented; and 53 coal patents issued.

Twenty-four hundred and thirty-seven unexamined cases are on file, and 2,341 examined and suspended cases await further action by the claimants. One hundred and ninety-three contests remain undisposed of.

STATE SELECTIONS.

State selections were made under educational and internal improvement grants aggregating 369,346.92 acres; an increase of 50,731.22 acres over the year 1886.

The following State selections were approved :

	Acres.
Agricultural colleges.....	16,081.38
School indemnity.....	7,394.47
Universities.....	2,204.07
Internal improvements.....	339.07
Total.....	25,992.99

TOWNSITES.

Four townsites, embracing 399.89 acres, were entered during the year, and there were 80 sales of town lots.

Twenty townsites and 512 town lots were approved for patent.

ACCOUNTS.

Five thousand five hundred and twenty-nine accounts were examined, audited, and adjusted, covering \$14,290,978.96; a decrease of 1,629 accounts and \$5,603,006.37 as compared with the previous year.

The adjusted accounts embrace receipts amounting to \$11,340,941.05, and disbursements to the amount of \$2,950,037.91.

CERTIFICATES OF DEPOSIT ON ACCOUNT OF SURVEYS.

The amount covered by certificates of deposit on account of surveys examined and accepted in payment for public lands during the year is \$16,892.10.

The amount deposited for surveys under the individual-deposit system was \$63,015.52. There were also deposits made by railroad companies, to reimburse the United States the costs of survey of lands selected by them, amounting to \$30,284.57.

REPAYMENTS.

Eight hundred and seventy-four repayment claims for lands erroneously sold, amounting to \$77,524.14, were adjusted and approved.

STATE-FUND ACCOUNTS.

The amount reported to the First Comptroller as accruing to the several States entitled by acts of admission into the Union to 5 per cent. of the net proceeds of sales of the public lands is \$66,640.38.

MAPS.

The map of the United States was revised and corrected to November, 1886.

New editions of maps of Indiana, Arkansas, and New Mexico were published.

Maps of Michigan, Ohio, Montana, Washington, and Wyoming are now being compiled. All these maps were made upon new projections, computed with care and verified before the compilation of the maps of the several States and Territories was begun.

There were 976 plats of surveys of the public lands reproduced, the original plats of which were by constant use and age becoming torn and defaced.

About 4,000 other maps and drawings were furnished.

SWAMP LAND SELECTIONS.

The swamp-land selections were 1,658,887.30 acres, making a total of 77,407,273.06 acres claimed by States under the swamp-land grant up to the close of the fiscal year.

Lists embracing 27,402.70 acres were approved, making the total thus approved 58,820,368.16 acres. Patents were issued for 51,034.21 acres. Cash indemnity claims amounting to \$58,732.11 were adjusted and allowed, a decrease of \$18,797.41. Indemnity lands were patented to the amount of 1,315.02 acres.

The total cash indemnity allowed since the passage of the indemnity acts is \$1,497,205.16, and the total amount of indemnity land patented is 573,705.50 acres.

Six special agents were employed in the field during the year in the States of Iowa, Illinois, Florida, Missouri, and Oregon examining either lands in place or claims for indemnity under the act of March 2, 1855, as extended by act of March 3, 1857.

PRIVATE LAND CLAIMS.

Seven private land claims have been patented during the year in Louisiana, Missouri, and California.

Patents have issued on twenty-eight donation claims in Oregon and New Mexico and Washington Territories. Two hundred and twenty-five Indian claims have been patented.

Thirty-eight private land-scrip locations were approved for patent, and seven New Mexico donation claims have been canceled. Forty-one claims in New Mexico and Arizona were reported to Congress under the act of July 22, 1854. Eight claims in Louisiana satisfied by scrip under act of June 2, 1858. One claim within the limits of Las Animas grant, Colorado, in which awards were made, was finally adjudicated.

The claims in California arising under the seventh section of act of July 20, 1866, were disposed of. In addition to the foregoing, there have also been examined and approved and passed for patent 41 entries made with certificates of location, issued under the acts of June 2, 1858, June 22, 1860, &c.

RAILROAD SELECTIONS.

During the past year there were certified and patented for railroad purposes 196,034.98 acres, an increase as compared with the previous fiscal year of 95,211.96 acres.

Lists of selections awaiting examination or action at the close of the fiscal year covered 20,213,019.92 acres, an increase as compared with the previous year of 3,641,720.22 acres. Of the lands so selected 17,049,470.39 acres have been suspended awaiting legislative action, the roads on account of which the selections were made not having been completed within the time required by law. The number of *ex parte* claims within railroad limits pending at the close of this fiscal year was 2,651, of which 456 have received some action and 2,195 have not been reached for examination. One hundred and seventy-four miles of land-grant railroad were reported as constructed during the year, making the total reported to June 30, 1887, 17,898.06 miles.

SURVEYS.

	Acres.
Surveys of the public lands	2,549,494.50
Surveys of private land claims.....	248,120.73
Resurveys of Indian lands	133,572.01
Total	<u>2,931,187.24</u>

* * * * *

Very respectfully,

WM. A. J. SPARKS,
Commissioner.

Hon. L. Q. C. LAMAR,
Secretary of the Interior.

REPORT OF THE COMMISSIONER OF PENSIONS.

The SECRETARY OF THE INTERIOR:

SIR: During the past quarter of a century the Bureau of Pensions has developed from an inconsiderable office to one whose clientage is unsurpassed in numbers, whose disbursements are very great, and whose operations are extended into almost every county, township, and district in the United States. This development has rendered necessary great and radical changes and a reorganization in the methods of the Bureau.

Because of wide-spread interest and inquiry and because I believe that the tax-payers are entitled to know the processes by which their moneys are disbursed, as well as the mere naked results of the disbursements, I have thought best to present to you this report of the methods of the Bureau of Pensions as at present conducted.

I have therefore directed the chief of each division to present a statement of the methods and workings of his division, and I append the same to this report.

One who is interested in the study of the pension system of the Government will find all needed information in the accompanying detailed reports; and I submit here, as introductory thereto, a brief sketch of the progress of a case through the Bureau of Pensions:

MAIL DIVISION.

All matter addressed to the Bureau of Pensions, or to the Commissioner, or to any other officer thereof, is received in the Mail Division, where it is opened and examined to determine whether it is personal or official, and if official, to what division it pertains; and is forwarded at once, after being stamped and recorded, to that division. All matter reaching the Mail Division is distributed on the day of its receipt.

Applications are sent from the Mail to the Record Division and there entered upon the records of that division. From the Record Division they are sent to the proper adjudicating divisions, where the claims are to be considered.

THE ADJUDICATING DIVISIONS.

The Adjudicating Divisions are five in number: First, is the Old War and Navy, which has jurisdiction of claims arising in the Regular Army and Navy, and in the old war service—the Mexican war and the war of

1812, and all other wars for which pensions or bounty lands are or have been granted, save that of 1861-'65.

The remaining Adjudicating Divisions are the Eastern, Middle, Southern, and Western. The Eastern Division has charge of all claims originating in military organizations from the States of Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, and Delaware.

The Middle Division has charge of all claims originating in military organizations from the States of Pennsylvania, Ohio, and Michigan.

The Western Division has charge of all claims originating in military organizations from the States of Indiana, Illinois, Iowa, Wisconsin, Minnesota, Nebraska, Kansas, Nevada, Colorado, California, Oregon, and the several Territories.

The Southern Division has charge of all claims originating in military organizations from the States of Maryland, Virginia, West Virginia, North Carolina, South Carolina, Louisiana, Georgia, Florida, Alabama, Missouri, Arkansas, Kentucky, Tennessee, Mississippi, Texas, and District of Columbia, and the several organizations of colored troops. (The term "claims originating in military organizations from" means in the titular service of the State, and does not have reference to the present residence or post-office address of the claimant.)

When a case has reached an Adjudicating Division it is placed by the chief thereof in the hands of an examiner, who proceeds with the consideration of the case, making such calls for evidence through the proper channels upon the claimant, his attorney, and the War Department, the Surgeon-General's Office, and the Record Division as may be necessary to determine the case. He also resorts to all such available means of information as, in his best judgment, are requisite for establishing the justice or otherwise of the claim. When a claim is found complete and ready for admission or for rejection it is forwarded from the examiner through the chief of his section to the chief of the division, passing the scrutiny of each of these officials, and is then sent to the Board of Review.

The intermediate steps of this process vary according to the emergencies of each case. It may be a very simple case with ample proof in the record, and in the present condition of the man, to show the justice or injustice of his claim. A medical examination then is ordered to determine, by a competent board of surgeons, the degree of disability, and the medical statement as to the amount of such disability resulting from the injury in the service.

After all these reports and evidence are in, and the case has been submitted, if it still stands undetermined, the case is ordered to the Special Examination Division, where it is further and more critically examined upon all controverted points, and at all places where essential information may be added, touching either a specific cause of inquiry or the whole merits of the case. It is then returned from the Special Examination Division, resumes its place on the calendar, and is adjudicated upon the legal questions in the claim. These embrace questions of origin, of service, and line of duty, and all other matters that, under the law, affect the legality of title of a claimant to pension. These legal questions having been established, the case is then sent to the Medical Division for medical advisement as to all the medical questions involved. If a mistake has been made in the diagnosis of the case it is here detected. If the lay examiner has accepted an existing disability as due to one shown to have originated in the service, and the medical examiner discovers that one cannot be a sequence of the other, the medical

opinion to that effect is furnished for a correction of judgment, and to show the medical points in the case. The degree of disability is also determined and certified by the Medical Board.

The case is then referred to the Board of Review for rating in accordance with the degree of disability shown to exist. These ratings are then affixed to the case and sent forward to the Certificate Division, where the final steps are taken, and the certificate is issued.

From the Certificate Division the case is returned to the Record Division for record, and the certificate is forwarded to the Mail Division and mailed.

* * * * *

OTHER DIVISIONS.

Some very important divisions have been entirely omitted in the enumeration of this routine work.

The Board of Re-review acts as an arbitrator, and final office judgment is pronounced by this board. All cases in controversy, or where there is contention or doubt, are referred to and passed upon by this board. Appeals lie from its decision only to the Commissioner in person; and while its work is not so comprehensive in detail as that either of the Board of Review or of the Medical Division, it is of prime importance in establishing a harmonious system of decisions and of bringing all cases to conform thereto.

At the time that I assumed charge of this Bureau the Law section consisted of one elderly gentleman and two ladies, all most estimable persons. At the present time the Law Division consists of thirty-six persons besides the chief, all of them constantly and busily engaged. The duties of this division, briefly, include the preparation of all cases of appeal to the Secretary of the Interior, and advising in all cases that may be certified from any division to the Law Division for an opinion, in accordance with the ruling of the Commissioner. The division is supplied with a fair library and with ample facilities for work. It is doing splendid work, and the briefs and opinions prepared and submitted therein, will compare favorably in exactness and in sound judgment with those of any similar number of gentlemen anywhere employed. An idea of the amount of work accomplished, and its precise and detailed character, will be obtained by a study of the separate report of the chief of this division.

Three divisions remain to be spoken of: First, the Agents' Division, through and under the supervision of which the transactions of the eighteen great pension agencies are carried on. This division carries on the correspondence with the Treasury in regard to all money matters, and also with all the agencies. It has charge and supervision of all expenses of the agencies; the distribution of pensioners, and the agencies by the rearrangement of districts, the allotment of moneys to the agencies, for the payment of all pensioners, surgeons' fees, and the salaries and necessary expenses of the Pension Agents.

Through the Army and Navy Survivors Division the Bureau of Pensions is kept in constant communication with the pension element of the country, and with their needs and requirements. Through this division search is made for witnesses, lost comrades, &c.

The Stationery and Accounts Division remains last to be mentioned. It has supervision of all expenditures relating to the Bureau of Pensions. After having passed all other audits the accounts of every clerk, examiner, and the amount and character of every disbursement are con-

sidered in this division. So perfect are its methods and systems that it is believed that in thirty minutes the exact condition of every appropriation and account between the Treasury and the Bureau of Pensions, or between the Bureau of Pensions and any member thereof, may be declared. This division does not have charge of the salary accounts of the officials and employes of the Bureau, who deal directly with the disbursing clerk of the Interior Department. All apparent discrepancies existing at any time between the accounts of the Bureau of Pensions and the Treasury auditing offices are, by the working of this division, detected and corrected.

I beg to refer to the reports of the chiefs of each division again for a detailed statement of the workings of the Bureau, content to say here that with the great results which have been achieved by this organized force I am entirely satisfied. It cannot be denied that wrongs occasionally arise and are perpetrated upon both the claimant and Government, but this condition of affairs is inseparable from the *ex parte* system of the preparation of cases; and my judgment is that the amount of wrong is reduced to a minimum under the present practice and the amount of good has reached its maximum. I mean to say that I regard the number of cases of imposition as comparatively few, and I think that the expedition given to proper claims is as great as is consistent with the safety of the public treasury.

This judgment is not a matter capable of demonstration, but strong moral proof is furnished by the fact that there has been a great diminution in the number and character of complaints of every description, both those on account of delay and those because of the rejection of claims; and on the other hand, those of tax-payers and interested parties claiming that pensions have been improperly allowed.

* * * * *

MINOR CHILDREN.

The number of minor children entitled to pension is diminishing and must continue rapidly so to do. I respectfully suggest that the additional amount allowed them of \$2 per month is inadequate for their ordinary support. This is far less in amount than the cost of the support of charity children in any of our great institutions, no odds how ably conducted, and there should be enough allowed, which, coupled with a reasonable exertion upon their part, would prevent them from suffering. The amount of \$5 per month does not seem to me excessive, and where incurable and disabling disease exists the pension should continue during life.

DATE OF DEPENDENCE.

I respectfully suggest that the phraseology of the act of June 16, 1880, should be amended to conform to the wise and kind intention of its framers. Under the proper construction of that act its benefits are limited to those who were entitled to its benefits at the very date of its approval, and those who subsequently, from aggravation of their malady, become totally helpless are barred from its privileges.

DATE OF WIDOW'S PENSION.

Under existing law a widow's pension certificate can only bear date from the day on which she files her application. Our knowledge of the sacred relations of husband and wife makes us know that the last thought which often occurs to the widow is that of the pecuniary re-

sults of death. Moreover there is a sense of delicacy which prevents a woman from immediately making application to be availed of the results of her husband's death, and so between cares, delicacy, and sometimes ignorance of right, long intervals elapse between the death of the husband and the filing of the application of the widow. In such cases as may hereafter arise it seems to me that the law should allow the commencement of the pension to date from the death of the husband, where the other conditions required by the law are present.

DOUBLE PENSIONS.

I respectfully recommend that section 4718 R. S. be so amended as to prohibit the payment of more than one pension to one and the same person; and to prohibit the receipt in his or her own right of a pension by a person receiving, for the same period of time, an accrued pension.

SUBSEQUENT PROMOTIONS TO PENSION-SERVICES.

I beg to call attention to the fact that during the last year the Secretary of the Interior presented to Congress a request for a modification of the law which declares that a pension shall be graded according to the rank of the claimant at the time that the injury was received, without regard to the fact that such claimant might subsequently have been promoted for meritorious services and in good faith. One instance will illustrate many: ——— was a sergeant in the ——— regiment. He contracted a malady which would have been at the time a sufficient reason for his discharge from the military service, but he waived this right given by his condition and served with gallantry and distinction, followed by his malady, it is true, through more than four years of war. At the end of the war he was mustered out as full colonel and brevet brigadier-general, having won every step intermediate by honorable service. He died shortly after of the disorder which had followed him from the time of his first service.

In allowing the pension, the claim being well established, the Commissioner was obliged to say to the widow, that under existing law the only pension that could be allowed her was that of the widow of a sergeant, and that all that her husband had since heroically performed availed nothing in determining her pecuniary rights. The suggestion of the Commissioner is that the rank, subsequently acquired bona fide, should be considered by the Commissioner in determining the amount of pension to be allowed.

DEAFNESS.

I desire to renew my recommendations made in my reports for 1885 and 1886 as to additional legislation in behalf of those who are afflicted with deafness from the service. The present rate is not commensurate with the degree of disability resulting, and I respectfully recommend that a total of \$30 per month for total deafness, (with intermediate grades, to be determined according to the degree of disability,) be fixed by law. The number of applicants under this provision is and would be very small, and the amount to be disbursed inconsiderable.

AMPUTATIONS.

Some discretion should be lodged in the Commissioner in correcting discrepancies in rates of pension for loss of limbs, or Congress should be asked by direct enactment to establish a table of rates for loss of limbs.

The existing laws upon this point are inharmonious and are unjust. There is no sufficient reason why, if the amputation of a leg at the hip joint entitles a claimant to \$45 per month, the loss of a leg and arm should together be rated at but \$36. If, again, \$45 be taken as a proper pension for a leg amputated at the hip joint, then the disability for performing manual labor from the loss of the foot and the hand should not be graded at a less figure. There are instances in which the loss of a single limb is an entire disablement for the performance of manual labor, in consequence of the nervous and other afflictions which follow. There are certainly many instances in which the loss of two members of the body is followed by an equally great disability.

The law fixes the following ratings for amputations:

Amputation at shoulder or hip joint	\$45 00
Total disability of arm or leg	36 00
Loss of one hand and one foot	36 00
Total disability in one hand and one foot	36 00
Amputation at or above elbow or knee	36 00
Loss of a hand or a foot	30 00

SUBSEQUENT SERVICE IN UNITED STATES NAVY BY CONFEDERATES.

I beg to call attention to the fact that the act of March 3, 1877, discriminates unjustly against claimants who, having previously served in the Confederate army, subsequently served honorably in the United States Navy. The act I respectfully submit should be amended to read:

That the law prohibiting the payment of any money on account of pensions to any person, or to the widow, children, or heirs of any deceased person, who, in any manner, engaged in or aided or abetted the late rebellion against the authority of the United States, shall not be construed to apply to such persons as afterward voluntarily enlisted in the Army or Navy of the United States, and who, while in such service, incurred disability from a wound or injury received or disease contracted in the line of duty.

The addition of the words "or Navy" makes the law fair to all classes intended to be covered by it.

PAYMENTS TO UNFIT PERSONS.

I respectfully recommend that the law be so altered and amended as that the Commissioner of Pensions shall be authorized to order the payment of pension to the wife of a pensioner or to a suitable person in behalf of the children of a pensioner, in cases where the pensioner shows by his habits that he is an unfit person to receive or disburse such pension, or because of his incompetence, not arising perhaps to the degree of lunacy, but such as to prove him a spendthrift, or in cases where he is an inebriate, or in cases where his money is spent upon improper persons or in improper ways. The law as at present existing limits the power of the Commissioner very greatly in this particular, and authorizes him to direct payment to the wife or guardian only in cases of insanity or other mental incapacity, or imprisonment for offenses against the laws. Payments so ordered made to any person other than the pensioner for the benefit of the wife or children should of course be made only upon bond properly executed.

DEPENDENT MOTHERS AND FATHERS.

The commencement of the period of dependence on the part of a father or mother in order to establish the right to pension is now fixed at the soldier's death. I respectfully suggest that the recognition of

dependence and the claim of the father and mother upon the son for support is too narrowly bounded by fixing the period of dependence at the moment of the death of the son. If the condition of dependence has arisen without fault of the father or mother at a period subsequent to the death of the son—that is, if that condition of affairs is shown to exist without fault upon the part of the parents, which, if the son had been living, would have thrown the burden of support upon him, that condition, it seems to me, should be recognized in the law. The greater the age the greater the natural right and claim on the son for support.

* * * * *

MEXICAN SERVICE PENSION ACT OF JANUARY 29, 1887.

I am gratified to report that the work upon the Mexican service pensions under the act of January 29, 1887, in the Old War and Navy Division, with the assistance rendered by the Record Division, and by the volunteered service out of office hours of numbers of employes, was so advanced that by the close of the fiscal year eight thousand of these pensions had been granted. I asked for an additional appropriation and for leave to employ an additional number of clerks for this service. Congress decided not to grant the increase, so I was compelled to delay the current work, to indefinitely postpone and thus virtually defeat the operations of the Mexican pension act, or to avail myself of the extra services of the employes in the Bureau. I acknowledge with satisfaction that very many among them rendered these services cheerfully, pleasantly, and efficiently. I desire also to mention in this connection the services of the Certificate Division, which worked with unceasing zeal, thereby making the promises of the law good to these aged veterans.

I renew my request for additional clerical force during the remainder of this fiscal year, that I may be enabled, without making extra demands upon the clerks now in the service, to complete and satisfy the Mexican pension claims. They are those of aged persons who have waited a period of nearly forty years for the display of their country's generosity, and aid to reach them must be speedily extended.

SUMMARY OF TABLES.

I respectfully call your attention to the following summary of the tables annexed to this report. They show a condition of business that is exceedingly gratifying, and I submit it without further comment.

Table No. 1 shows as follows:

There were at the close of the year 406,007 pensioners, classified as follows: 294,445 Army invalids; 85,010 Army widows, minor children, and dependent relatives; 3,281 Navy invalids; 1,973 Navy widows, minor children, and dependent relatives; 1,069 survivors of the war of 1812, and 11,831 widows of those who served in that war; 7,503 survivors of the war with Mexico, and 895 widows of those who served in said war, which latter class have been added to the rolls pursuant to the act of Congress approved January 29, 1887.

There were added to the rolls during the year the names of 55,194 new pensioners, and the names of 2,707 whose pensions had been previously dropped were restored to the rolls, making an aggregate of 57,901 pensioners added during the year.

During the same period the names of 17,677 pensioners were dropped from the rolls for various causes, leaving a net increase to the rolls of 40,224 names.

The average annual value of each pension at the close of the year is shown to be \$130.10, a gain of average annual value over last year of \$7.87. The aggregate annual value of all pensions is \$52,824,641.22, an increase of like value for the year of \$8,116,633.78.

The amount paid for pensions during the year was \$73,467,581.87, an increase in amount over the previous year of \$9,669,750.26, the difference between the amount paid and the annual values being due to first payments, including "accrued" and "arrearage."

The amount paid to 44,019 new pensioners during the year upon first payment was \$25,166,990.06, and there remained in the hands of the several pension agents 14,683 of this class unpaid at the close of business on the 30th day of June, on which there was due \$3,924,783.11.

Table No. 2 shows as follows:

There were 17,677 pensioners, whose names were dropped from the rolls. They have been so classified as to show the number of widows with, and those without, minor children; the number of minor children who were pensioned in their own right, and the number of dependent mothers and fathers. It also shows the whole number of pensioners on the roll, with a like subdivision of the widows' class.

Table No. 3 exhibits the amount of appropriations and balances available for the payment of pensions for 1886-'87.

Table No. 4 exhibits the amount paid out on account of pension by each agent, under each item of appropriation, as shown by their accounts-current. This table also shows a disbursement of \$19,941.95 for payment of arrears of pensions in cases where the original pension was granted prior to January 25, 1879, and the date of commencement of pension was subsequent to discharge or death. The act of January 25, 1879, provided for arrears of this class, and the disbursements have been kept separate from those of regular pensions. Of the funds to pay this class there remains a balance of \$433,741.58, which is not, as in the case of other appropriations, covered into the Treasury at the close of the year.

Table No. 5 shows the number of pensioners on the rolls at each agency, by the several classes, and compares the aggregate number with that of the previous year, showing in each class the net increase or net decrease. It also shows the net increase to the rolls during the year, which, as before stated, was 40,224.

Table No. 6 shows the number of original pension claims of each class filed year by year since 1861, the number allowed, and the number of pensioners on the rolls at the close of each year. In this statement it appears that 628,272 claims have been filed during that period on account of disability, and 364,886 claims have been filed on account of death, alleged to be due to causes originating in the service, claims for this latter class having been filed by widows, minor children, and dependent relatives. There have been allowed of the invalid claims 367,424; of the widows and dependent relatives' claims 240,662; a total of 608,086.

Since 1871, 79,164 claims for pension on account of service during the war of 1812, provided for by the acts of 1871 and 1878, have been filed. Of this number 34,714 have been filed by the surviving soldiers and sailors, and 44,450 have been filed by the widows of those who served in that war. Only 17 original survivors' claims have been filed under this law during the past fiscal year, and only 312 on account of widows for the same period.

It thus appears that in the aggregate 1,091,200 pension claims have been filed since 1861, and in the same period, 676,948 claims of all

classes have been allowed. The number of pensioners upon the rolls at the close of each year is stated. The amount paid for pensions since 1861 has been \$883,440,298.36.

Table No. 7 shows the different monthly rates of pension to Army and Navy invalids, together with the number of pensioners of these classes and of each of them. It will be seen that there are 151 different rates of pension paid.

Table No. 8 gives the location and geographical limits of each pension agency, the name of each agent, and the balance of funds remaining to his official credit at the close of the year.

Table No. 9 shows the number of Army invalid claims allowed each year since 1861, classified and arranged so that in each year's allowance it is shown in what years the claims were filed. The whole number of invalid claims filed each year since 1861 is given, and it is shown what percentage of the number of claims filed each year has been allowed.

Table No. 10 exhibits the amounts paid for pension each year since 1871 for pensions to the survivors of the war of 1812 and to the widows of those who served in that war.

Table No. 11 shows the number of each class of claims on the files of this Bureau at the commencement of the year; the number filed during the year, and the number admitted; the number rejected during the same period, and the number of each class pending and on the rejected files at the close of the year. There is also shown in this table the number of bounty-land claims received, allowed, rejected, and remaining on file.

Table No. 12 is a comparative statement of pension claims of all classes settled by allowance and rejection during the years 1881, 1882, 1883, 1884, 1885, 1886, and 1887.

Table No. 13 shows the number of each class of Army pension claims filed since 1861 on account of disability or death from causes originating in the service since March 4, 1861. It also shows the total number admitted under each class named, so arranged as to show these results by military service in each State and Territory.

Table No. 14 exhibits the issue of certificates from this Bureau during the fiscal year beginning July 1, 1886, and closing June 30, 1887, and shows a grand total of 112,340 certificates. This table also shows that during the year 55,194 original certificates were issued, a greater number than ever before issued in any year by this Bureau.

Table No. 15 shows in brief the operations of the special-examination division of this Bureau during the year. It sets forth the number of claims acted upon by said division, the amount of savings accredited to this service, and the expenditure on account thereof, except salaries.

Table No. 16 shows the number of appeals to the Secretary of the Interior from the decisions of this Bureau during the year—a total of 2,599.

Table No. 17 shows the number of names and addresses furnished to different divisions of this Bureau and to claimants, in the consideration of pending claims during the year—a total of 158,227.

Table No. 18 exhibits the work done by the Mail Division of this Bureau during the year. It shows the amount of money received in the mail, the amount of postage stamps received, as well as the enormous correspondence of this Bureau. \$1,263.59 were received in money; 9,808 postage stamps were received; 450,806 letters of inquiry were received; and 1,607,675 letters were sent out during the year. This table also shows that 2,234,331 pieces of mail matter were received, examined, and distributed to the proper divisions of this Bureau during the year.

Table No. 19 exhibits the number of men in service from each State and Territory in the war of 1861-'65, and the number of men when reduced to the basis of three years' term of service.

Table No. 20 shows the number of pensioners in each county of each State and Territory of the United States, and in each foreign country, on the pension rolls June 30, 1887, together with the amount paid as current pension in each of said counties and foreign countries for the quarter ending June 30, 1887.

The summary of this table shows the number of pensioners in each State and Territory of the United States, and in foreign countries, on the pension rolls June 30, 1887, and the amount paid as current pension in each State and Territory and in foreign countries for the June, 1887, quarter.

* * * * *

ESTIMATES.

The estimates which I have submitted in the manner pointed out by law, through the Secretary of the Interior and the Secretary of the Treasury, are just and reasonable in every respect. I ask especially that no curtailment may be made of the amounts to be paid for the Special Examination Division, which must be from time to time enlarged to meet the emergencies of the service and the multiplication of crime.

During the past year a large number of convictions, reimbursements, and repayments have been made, and a wholesome regard for the power of the Government instilled into the minds of the criminal classes.

With high respect, I have the honor to be, very truly yours,

JOHN C. BLACK,
Commissioner of Pensions.

WASHINGTON, D. C., *September 10, 1887.*

REPORT OF THE COMMISSIONER OF PATENTS.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, September 1, 1887.

SIR: In reply to your communication of July 30, 1887, I beg to submit the following report:

CURRENT BUSINESS.

At the end of the last fiscal year, ending June 30, 1887, the office was well up with the business in charge. It is impossible to establish any definite rule by which to gauge the work of the office and determine when it may be said to keep its current business up to date. The number of applications coming into the office varies each month, and in the nature of the work it requires on the average from a month to six weeks, or more, to give applications the examinations necessary under the system prevailing in the office. The number of applications for patents of all kinds received during the fiscal year 1885-'86 was 40,678; for 1886-'87, 38,408.

These figures give an average of over 3,000 applications per month, or 4,500 for each period of six weeks. It is, therefore, a reasonable esti-

mate that when the total number of applications before the office does not exceed 4,000 or 4,500, the force is properly discharging its work, and is up with the current business.

In the classification of the arts in the office it necessarily occurs that some of the divisions receive a greater number of applications than others, and that the investigation and research in some are more extended and require more time than in others. In consequence the relative conditions of the divisions are not the same, some being in greater arrears than others. Other circumstances conduce more or less to increase this disparity. An examination of the office reports for years past shows this inevitable want of uniformity. The condition of the business on June 30, 1887, will compare favorably with that of any previous year, and the office may be said to have been fairly up with its current work. Only one division was in arrears over six months, and seven exceeding three months.

ROOM.

I desire to renew the recommendation of my predecessors that the Patent Office be furnished with more room and greater facilities, and that the model hall and library rooms be restored and repaired. It is the opinion of those most conversant with the subject that the loss of time and convenience to the office force, due to the present arrangement of rooms, the inconveniences, discomforts, and lack of facilities, and the remoteness of divisions from each other, &c., if properly economized and applied, would furnish a sum sufficient to pay the rental for a building sufficient for the needs of a Bureau in this city.

DECISIONS OF FEDERAL COURTS.

I also renew the recommendation made by the last Commissioner that Congress should be requested to make provision requiring the clerks of the Federal courts to furnish the Patent Office, for publication in the Official Gazette, certified copies of all decisions and opinions rendered hereafter in patent cases in such courts, as rapidly as they are entered.

NECESSARY LEGISLATION.

Attention is called to the fact that it is believed legislation is needed with reference to the subjects of the following sections of the Revised Statutes of the United States: Section 4885, relating to the date of patents; section 4887, relating to limitation of patents; section 4898, relating to assignments, &c., of patents; section 4930, relating to reimbursement of money paid through mistake into the Treasury.

More specific consideration of this subject will appear in the annual report of the Commissioner to Congress.

I regret to be compelled to report a serious defalcation in the office of the financial clerk of this Bureau when it was in charge of the late Mr. Levi Bacon. His death, which occurred on the 22d of June, 1887, necessitated a settlement of his accounts, and an investigation disclosed the fact that there existed a shortage of \$31,091.61. As against this deficiency there were found due bills, miscellaneous memoranda, &c., where Mr. Bacon had advanced and loaned the public money, amounting to \$15,011.01, leaving net cash unaccounted for, \$16,080.60. Of this latter fund (\$16,080.60) the sum of \$11,525.60 is public money belonging to the revenues of the office. The remainder, \$4,555, belongs to the attorneys'

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fund, made up of deposits with the financial clerk from time to time by attorneys to meet the charges and fees they are required to pay in their business transactions with the office. It will be observed that this shortage of \$16,080.60 will be increased to the extent that the aggregate of the due bills and miscellaneous items falls short of collection. Thus:

The total shortage is:	
Actual cash unaccounted for.....	\$16,080 60
Represented in due bills, &c.....	15,011 01
	<hr/> 31,091 61
From the aggregate of these due bills, &c., there has since been collected the sum of.....	8,668 80
	<hr/> 22,422 81

There is reason to believe that something more will yet be collected upon these due bills, &c., but no estimate can be made of the amount.

The following statements exhibit in detail the business of the office for the fiscal year ending June 30, 1887:

Number of applications for patents	35,434
Number of applications for design patents	797
Number of applications for reissue patents	150
Number of applications for registration of trade-marks	1,270
Number of applications for registration of labels	757
Number of caveats	2,616
Total	<hr/> 41,024
Number of patents granted, including reissues and designs	21,732
Number of trade-marks registered	1,101
Number of labels registered	384
Total	<hr/> 23,217
Number of patents withheld for non-payment of final fees	3,115
Number of patents expired	12,782

RECEIPTS AND EXPENDITURES.

Receipts from all sources	\$1,150,046 05
Expenditures (including printing and binding and contingent expenses).....	981,644 09
Surplus.....	<hr/> 168,401 96

BALANCE IN THE TREASURY OF THE UNITED STATES ON ACCOUNT OF PATENT FUND.

June 30, 1886	\$3,000,000 00
June 30, 1887	168,401 96
Total	<hr/> 3,168,401 96

COMPARATIVE STATEMENT.

	Receipts.	Expenditures.
June 30, 1884	\$1,145,533 10	\$913,345 93
June 30, 1885	1,074,974 35	970,277 58
June 30, 1886	1,206,167 80	991,829 41
June 30, 1887	1,150,046 05	981,644 09

Attention is called to a typographical error on page 4 of the printed record of my predecessor for the last fiscal year. Under the heading "Receipts and expenditures," the receipts should read \$1,206,167.80, instead of \$1,200,167.80, and the expenditures should read \$992,249.63, instead of \$882,249.63.

The apparent discrepancy in the expenditures for the year 1885-'86,
 above stated, viz. \$992,249 68
 and 991,829 41

420 21

is accounted for in the fact that certain salaries on account of promotions were refunded, the same having been disallowed by the Treasury Department.

Very respectfully, your obedient servant,

BENTON J. HALL,

The SECRETARY OF THE INTERIOR.

Commissioner.

REPORT OF THE COMMISSIONER OF EDUCATION.

DEPARTMENT OF THE INTERIOR,
 BUREAU OF EDUCATION,
 Washington, D. C., September 30, 1887.

SIR: I have the honor to submit the following report of the operations of this Office for the year ending June 30, 1887:

I was appointed by the President on the 3d, and confirmed by the Senate on the 5th of August, 1886; but having obtained your permission to arrange my private business before entering upon the discharge of my duties, I did not assume personal charge of the Office until the 27th of September following.

Upon assuming charge of the Office, I deemed it best, after consultation with you, to re-organize it, and reduce the number of divisions from seven to three, thereby promoting efficiency of service and directness of responsibility.

These divisions are, respectively, the Division of Records, Library and Museum Division, and the Division of Statistics.

This was rendered necessary to systematize the work and to distribute it so as to insure promptness and accuracy in its performance.

To the Division of Records was assigned the correspondence, indexing, and filing of all communications, and the distribution of the publications of the Office.

The Library and Museum Division is charged with all the books, pamphlets, journals, apparatus, and other articles in the collections which its name implies.

The Division of Statistics is charged with the preparation and printing of the annual report and other publications of the Office.

To the supervision of each of these divisions was assigned an experienced chief, who became responsible for the proper dispatch of the work therein. This plan, I am glad to say, has worked admirably, and has enabled the Office to respond promptly to all the calls that have been made upon it for information, to bring up much work previously in arrears, and to perform the routine duties assigned to it by law.

During the year 1886-'87, this Office has received, written letters 11,006; acknowledgments, 43,990; documents, 4,825, besides about 20,000 replies to statistical forms of inquiry; and has sent out 19,354 written and printed letters, and distributed 218,526 copies of documents. The statistical forms related to the Report for 1885-'86, and the result appears in the appendices to the volume for that year, recently completed.

The documents received, above mentioned, comprising school reports, educational journals, treatises and other works and pamphlets on educational subjects, have been catalogued and filed in the Library and Museum Division, wherein the card catalogue of the general collection of books has been carried very far towards completion, and the special catalogue of the articles in the Museum prepared. This collection of educational apparatus and appliances has never received the attention which its value and extent demand, partly on account of the want of space for an adequate display of the same. Feeling that it should be made serviceable to some extent, I have caused a selection of the articles to be made; have made some additions in order to make the selections complete, and have caused the same to be cleaned, prepared, catalogued, cased, and displayed in accordance with the most approved methods used in such cases, following the general plan furnished by the National Museum. I believe that visitors to this Office will find this collection of infinitely greater value than ever before for educational purposes, on account of the ease with which they can have access to the articles for examination, comparison, and study.

The Museum, as now exhibited, will, I believe, be a genuine surprise to almost any one not connected directly with the Office. I desire, with your permission, to print a catalogue of the Museum as soon as circumstances will permit. That portion of the Museum now exhibited contains approximately two thousand five hundred objects and series of objects.

The value of the Office library is well known to educationists of every grade, and it has been used during the past year by several professors and other investigators of educational subjects.

The library now contains 19,200 volumes and 60,000 pamphlets, besides many thousand duplicates which are used for exchange and distribution. During the year 1,700 volumes and 15,000 pamphlets were added to the library, indexed, and filed; 8,000 cards for the catalogue were written, and over 300 cards giving references to investigators on various topics were prepared. Some of these cards were the result of very elaborate research, and were prepared with great care and labor.

Many of the books in the library and a very large portion of the articles in the Museum are pecuniarily of great value, a large number being the donations of foreign Governments, and native and foreign authors and inventors. These parts of the collection could not be duplicated if scattered or destroyed.

The Library Division has also prepared the greater part of a very complete "index to the publications of the Bureau" since its foundation in 1867, to the close of the fiscal year now under review. This index will be found in an Appendix of this volume, and will add greatly to the convenience of those who may wish to examine these publications.

These catalogues and indexes will hereafter be kept up to date.

On entering the Office I found that the Annual Report for 1884-'85 was not completed. After a careful consideration of the situation, I deemed it best to forward the completion of this Report and other unfinished work, and then to concentrate all the efforts of the Office to the preparation of the Report of 1885-'86, so that it might be issued at the earliest possible moment to make way hereafter for the preparation of the annual reports immediately after the end of each fiscal year.

The Report of 1884-'85 was completed and sent to the printer in January. This work was done in the Statistical Division and required the entire time of part of the division for four months.

The Circular of Information respecting the teaching of music in the public schools was also completed, edited, and sent to the printer; and another circular containing the proceedings of the department of superintendence of the National Educational Association for the year 1885-'86 was also edited and printed.

The Special Report of Education at the New Orleans Exposition, consisting of three parts, has also been printed and distributed since I assumed charge of the Office.

The second part of the Special Report on Fine and Industrial Art has been completed, revised, and a small part of it printed during the year.

This work was undertaken in response to a resolution of the Senate, dated February 2, 1880, directing the Bureau to "furnish the Senate with a statement of all the information relative to the development of instruction in drawing as applied to the industrial or fine arts in the colleges of agriculture and the mechanic arts, and in the public schools and other institutions of the country, with special reference to the utility of such instruction in promoting the arts and industries of the people."

I deem it important to complete this work, in order that no further delay may occur in laying the information in the possession of the Office before the Senate. The work has been in charge of Mr. I. Edwards Clarke since its inception. The second part will cover at least one thousand pages, and there are to be two additional volumes.

In addition to the above, another special report on Indian Education and Civilization, undertaken in response to a resolution of the Senate dated February 23, 1885, has been continued and completed under the editorial charge of Miss Alice C. Fletcher, assisted by a portion of the clerical force in the Division of Statistics. This volume is now in the hands of the printer, and will cover at least seven hundred printed pages.

A portion of the Report of 1884-'85, comprising a list of libraries other than private and containing three hundred volumes or over, was reprinted and largely distributed in response to a general request from correspondents of the Office.

Circular No. 1, 1887, containing a Historical Account of the College of William and Mary, in Virginia, was prepared by Prof. Herbert B. Adams, Ph. D., associate professor of history in Johns Hopkins University, Baltimore, and has been received with singular favor. This forms part of a series of historical monographs, which, with your approval, I have made arrangements to publish at suitable times. Considerable work in this direction has been done during the year with reference to the history of higher education in the universities and colleges of the older States in the Union, with special reference to the period anterior to the war of the Revolution.

Circular of Information No. 2, 1887, also by Professor Adams, contains material similar to the foregoing, respecting the Study of History in the Colleges and Universities of the United States.

Circular of Information No. 3, 1887, which contains the proceedings of the department of superintendence of the National Educational Association held in this city in March, 1887, together with numerous addresses delivered thereat, has been prepared and edited during the year, and will be printed before this report appears.

Prof. E. J. James, of the University of Pennsylvania, has in course of preparation a Circular of Information respecting the Teaching of Political Economy in our Higher Institutions of Learning.

The Report of 1885-'86 was taken up and pushed forward rapidly, and, I am glad to say, was placed in the hands of the printer by the 15th of last June, and will doubtless be printed before the meeting of Congress.

Upon examining the previous reports of the Office, it seemed to me that without violating the spirit or lessening the usefulness of the series, it was possible to increase the promptness of its publication, the variety of its contents, and the value of its deductions by suitable changes in the method of its preparation and the details of its arrangement.

Following the lines of this plan, forms of inquiry were systematically revised, and in many cases simplified. These, printed in a convenient shape, were distributed to all the systems and schools upon the lists of the Office, amounting to nearly fifteen thousand.

Edward G. learned what facts could be best stated in tabular form, and stated them in such tables were prepared in relation and the names of all persons involved were inserted therein. When the forms were filled out and in all correspondence, the statement facts therein stated in plain language as received; however, when portions of the facts did not require construction of the tabular matter were included.

[illegible]

tion, or, in other words, the percentage of the school population enrolled in the two States, does enable them to be compared on the same plane. Such percentages were fully given.

Tabular summaries by geographical sections were introduced in my first report, thus enabling broader comparisons and generalizations to be instituted.

The work of improvement on the lines referred to above has been continued and enlarged in the present volume. The most important difference in the method of presenting the statistics of city and town systems in the reports for 1885-'86 and 1886-'87 consists in the introduction in the latter of a comparative table similar in purpose to those described in the preceding paragraphs respecting State systems.

The statistics have been extended to those cities whose population is 4,000 or more. The census of 1880 made that number the dividing line between the urban and the other population, and this standard has been adopted as the lowest limit of population of "cities" by this Bureau.

Though only a single column has been added to the table of abstract statistics, the value of the figures there shown is vastly increased by the deductions drawn from them in the comparative table that follows.

In the blanks sent out for 1885-'86 superintendents were asked to state "the average number of scholars per teacher;" the "average cost per capita of pupils in average attendance, based upon cost of supervision and instruction," and upon "incidental and contingent expenses," and the "tax for school purposes upon the total property, assessed and estimated." All these questions are omitted in the inquiries for the 1886-'87 report. Instead, all these calculations and others of a similar nature are made in this Office, thus insuring uniform methods of computation.

Further, the population between the ages of 6 and 14 years has been determined in each case, and averages are made upon that basis, as well as upon the average attendance upon the schools. For purposes of comparison upon equal terms this is absolutely necessary, since the "legal school age" is so variable as to make comparison impossible unless uniform bases were established.

The new tables show the percentage of "enrollment to population 6 to 14;" of "average daily attendance to population 6 to 14, and to enrollment," the "average number of days that each person between the ages of 6 and 14 have been instructed;" the "average number of days of attendance of each pupil enrolled;" the "number of sittings for each 100 pupils enrolled and for each 100 pupils in average attendance;" the "average number of sittings to a building;" the "number of pupils in average attendance to each teacher;" "ratio of male teachers to whole number;" "ratio of high-school enrollment to total enrollment;" "ratio of private school enrollment to total public and private school enrollment;" "ratio of total public and private enrollment to population 6 to 14;" "number of volumes in libraries to each 100 pupils in average attendance;" "assessed value of property per capita of population 6 to 14;" "value of school property per capita of population 6 to 14, and average attendance;" "ratio of value of school property to total assessed valuation;" "amount raised by city tax per capita of population 6 to 14, and average attendance;" "ratio of amount raised by city or town tax to total assessed valuation;" "salaries of superintendents and teachers per capita of population 6 to 14, and average attendance;" and finally, "ratio of salaries of superintendents and teachers to total assessed valuation."

The "narrative matter" in this connection is a more important feature than in my last report, and the educational questions arising therefrom are treated with somewhat more fullness.

The statistics of secondary instruction have been rendered more complete by the addition of public high schools, while the subdivisions adopted for the table correspond more exactly to the present condition of the schools considered, and therefore better facilitate the study of the details.

Those familiar with the educational history of the past few years cannot fail to be impressed with the evidence it affords of vital force in the superior institutions of learning in the United States, and of the great and growing interest manifested by foreign students of education in the details of their organization, equipment, and conduct.

The number and varied character of these institutions make it exceedingly difficult to devise a scheme suited at once to the just representation of individual institutions and to the record of particulars common to a class. The former is necessary to give a fair idea of the genius and growth of our institutions, and the latter to show their relation to educational problems of universal moment.

The twofold purpose could not be completely accomplished in the time available for the preparation of an annual report, but all departures from the scheme formerly employed in this division of the report have been made with this end in view.

The treatment of details, here as in the division of secondary instruction, has been determined by the consideration of the information of chief importance to those charged with the duty of promoting the educational interests of the country.

The general condition and progress of education during the year under review thus set forth is discussed and exemplified in connection with the tables and statistics above described, and needs no further exemplification here. An examination of the appendices will show that the condition and progress heretofore characteristic of American education have been, in general, maintained during the year 1886-'87. There may have been here and there retrogressions and reactions, but these are more than balanced by healthy growths and judicious improvements. The subjects that attracted the attention of the profession in the year 1885-'86, still continue to be the main objects of interest in the following year.

Among notable events of the year in the educational world may be mentioned the celebration by Harvard University of the two hundred and fiftieth anniversary of its foundation; the formal assumption by the corporation of Yale College of the name of "Yale University," as more exactly expressing the extent and importance of its present work in education; the centennial celebration of the incorporation of Columbia College, and the opening by that institution of its "School of Library Economy;" the various experiments, public and private, instituted for the introduction and application of manual and industrial training in the schools, both public and private.

ALASKA.

The duty of making needful and proper provision for the education of children of school age in the Territory of Alaska having been devolved upon the Secretary of the Interior by the provisions of the act providing a civil government for Alaska, May 17, 1884, section 13, and the Commissioner of Education having been designated to carry out these

purposes by the order of the Hon. H. M. Teller, Secretary of the Interior, bearing date March 2, 1885, and the same order having been continued in force, with authority to prepare all needful rules and regulations for the management of the schools, after consultation with you a system of rules and regulations for the conduct of the public schools in the Territory was prepared, which was adopted and ordered to be promulgated by you on the 14th day of June, 1887. These rules and regulations are contained in an Appendix of this report.

This plan was at once forwarded to the Hon. A. P. Swineford, governor of the Territory, and the other gentlemen who were appointed members of the board of education, with the request that they would at once organize under it.

The receipt of these regulations was promptly acknowledged by him, and I was informed that the board had organized by the election of the Hon. Lafayette Dawson, judge of the district court, as president, and the Rev. Sheldon Jackson as secretary.

I feel satisfied that the adoption of this plan of education will add greatly to the efficiency of the administration of the schools in Alaska, and that it will be the beginning of a new era in its educational affairs. The education of the native inhabitants is a duty we owe them under the provisions of the treaty of acquisition with Russia. They stand upon the same footing in all their personal and civil rights with our own citizens, and upon the organization of a Territorial government will necessarily be admitted to all the rights of citizenship.

In the meantime they should be prepared, by having the advantages of education extended to them, to enter upon the duties of their new relations, and to meet the requirements and discharge the duties of our civilization.

Schools were organized in 1885 at many places in the Territory under the supervision of Dr. Sheldon Jackson, the United States agent of education. In order that the condition of education in that Territory for the past year may be properly presented, I append the report of Dr. Jackson for the year 1886-'87.

I am satisfied, after a full consideration of the wants of the Territory and by a careful personal inspection during my recent visit, that the sum of \$50,000 may be wisely expended in the organization and support of its schools, and I therefore recommend an appropriation of this sum for the next fiscal year, and I trust that it will be sanctioned by you and that it will be made by the next Congress.

FINAL REMARKS.

In conclusion, I beg to express my thanks for the uniform kindness and courtesy that you have shown me in the management of the Office of Education and in my personal intercourse with you, and to assure you of my sincere personal regard and esteem.

I have the honor to be, very respectfully, your obedient servant,

N. H. R. DAWSON,
Commissioner

The SECRETARY OF THE INTERIOR,
Washington, D. C.

REPORT OF THE INTERSTATE COMMERCE COMMISSION.

Hon. LUCIUS Q. C. LAMAR,
Secretary of the Interior :

SIR: The undersigned, Commissioners appointed under "An act to regulate commerce," approved February 4, 1887, in discharge of the duty imposed by the twenty-first section of said act, which directs the Commission on or before the first day of December in each year to make a report to the Secretary of the Interior, to be by him transmitted to Congress; the report to "contain such information and data collected by the Commission as may be considered of value in the determination of questions connected with the regulation of commerce, together with such recommendations as to additional legislation relating thereto as the Commission may deem necessary," beg leave respectfully to report:

It is provided in the act referred to that its provisions shall apply to—

Any common carrier or carriers engaged in the transportation of passengers or property wholly by railroad, or partly by railroad and partly by water when both are used, under a common control, management, or arrangement, for a continuous carriage or shipment from one State or Territory of the United States or the District of Columbia to any other State or Territory of the United States or the District of Columbia, or from any place in the United States to an adjacent foreign country, or from any place in the United States through a foreign country to any other place in the United States, and also to the transportation in like manner of property shipped from any place in the United States to a foreign country, and carried from such place to a port of transshipment, or shipped from a foreign country to any place in the United States, and carried to such place from a port of entry either in the United States or an adjacent foreign country: *Provided, however,* That the provisions of this act shall not apply to the transportation of passengers or property, or to the receiving, delivering, storage, or handling of property wholly within one State, and not shipped to or from a foreign country from or to any State or Territory as aforesaid.

It is further provided that—

The term "railroad" as used in this act shall include all bridges and ferries used or operated in connection with any railroad, and also all the road in use by any corporation operating a railroad, whether owned or operated under a contract, agreement, or lease; and the term "transportation" shall include all instrumentalities of shipment or carriage.

The railroad mileage of the United States, computed to the close of the fiscal year 1886, of the companies respectively, was 133,606. The number of corporations represented in this mileage was 1,425, but by the consolidation or leasing of roads the number of corporations controlling and operating roads as carriers was reduced to 700. It is estimated that 4,380 miles of road have been constructed since the foregoing statistics were obtained, making a total mileage at this time of 137,986. It is impossible to say with entire accuracy what is the number of railroad companies subject to the provisions of the act, but it is believed that not less than 1,200, operated by about 500 corporations as carriers, engage either regularly or at times in interstate commerce, so as to make the act applicable. The Commission has as yet no statistics of its own collection to lay before the public, but in a manual generally accepted as reliable, the cost of construction and equipment of the 133,606 miles of road is estimated at \$7,254,995,223, and the funded debt of the companies at \$3,882,966,330. Interest, according to the same authority, was paid by these companies for the last fiscal year to the amount of \$187,356,540, and the aggregate payment to stockholders in dividends was \$80,094,138.

Some idea of the magnitude of the interest which the act undertakes to regulate may be obtained from these figures, but they fall far short

of measuring, or even of indicating, its importance. The regulation of no other business would concern so many or such diversified interests or would affect in so many ways the results of enterprise, the prosperity of commercial and manufacturing ventures, the intellectual and social intercourse of the people, or the general comfort and convenience of the citizen in his every-day life. The railroads provide for the people facilities and conveniences of a business and social nature which have become altogether indispensable, and the importance of so regulating these that the best results may be had, not by the general public alone, but by the owners of railroad property also, is quite beyond computation.

The act to regulate commerce was passed under the authority conferred upon Congress by the Federal Constitution "to regulate commerce with foreign nations, among the several States, and with the Indian tribes," and in recognition of a duty which, though long delayed, had at length, in the opinion of Congress, become imperative. The reasons for the delay are well understood. When the grant of this power of regulation was made by the Constitution the commerce between the States which might be controlled under it was quite insignificant, both in volume and value. It was for the most part carried on by means of coastwise vessels and by water craft of various kinds which were sailed or otherwise propelled on the lakes, rivers, and smaller streams of the interior. On the land there was very little that could be said to rise to the dignity of interstate commerce, and the regulation of that little, as also of that which was exclusively State traffic, was for the most part left to the rules of the common law. The exceptional regulations, if any seemed to be called for, were made by the State laws. In a few cases where persons had associated themselves together as regular carriers of persons on definite routes, exclusive rights were granted to them by the States as such carriers, the motive to such grants being a belief on the part of the State authorities that without the exclusive privilege the regular transportation would not be adequately and reliably provided for.

For the regulation of commerce on the ocean and other navigable waters Congress very promptly passed the necessary laws; but its jurisdiction within the limits of the States was not very clearly understood, and it was not until the great case of *Gibbons v. Ogden*, decided in 1824, that it was authoritatively and finally determined that the waters of a State, when they constituted a highway for foreign and interstate commerce, are, so far as concerns such commerce, as much within the reach of Federal legislation as are the high seas; and consequently that exclusive rights for their navigation can not be granted by States whose limits embrace them.

But while providing from time to time for the regulation of commerce by water, Congress still abstained from undertaking the regulation of commerce by land. The reasons for this continued to be the same as at the first. The land commerce was insignificant in amount, and the rules of the common law were in general found adequate to the settlement of the questions arising out of it. The commerce of trappers and hunters, of traders with the Indians, or that of the early settlers in the wilderness, needed only the most primitive modes of conveyance; the emigrant wagon in one direction and the pack-horse and canoe in the other, performed in respect to it the functions now performed by the railroad train and the steam-boat. The use of such primitive instrumentalities required little regulation by either State or national law. When Congress provided for the construction of the Cumberland road as a great national highway, it was thought quite undesirable to regulate its

use by national law or to take national supervision of the commerce upon it; and, with the commerce on the ordinary highways, it was left to the supervision and care of the States respectively through or into which the road should be built.

With the application of steam as a motive power for propelling vessels the conditions were immediately, to a considerable extent, changed. An impetus was given to the internal commerce of the country which promised immense results, and which made immediate and imperative demand for other and very different highways to those which accommodated the pack-horses and heavy wagons of the early traders and settlers. But even then the circumstances were favorable to a prolongation of State control. The first improved highways were turnpikes; the next in grade were canals; but the highways by water as well as the highways by land were provided for by the States. The General Government made some appropriations for canals where they were needed as improvements in existing navigation, but the great artificial channels of water transportation were State creations. Such was the case with the Erie Canal, which during the period when emigration to the wilderness was greatest, and when improvement in the new Territories was most rapid, constituted the most important of all the highways connecting the interior with the sea-board. Such also were the canals which were constructed to connect the Delaware with the Hudson, the Chesapeake with the Ohio, the waters of Lake Erie with the Ohio at Portsmouth, at Cincinnati, and at Evansville, the waters of Lake Michigan with the Mississippi, and many others now almost forgotten, but which were of great temporary importance and value.

As the States constructed these great interstate highways, it was not unnatural that they should be left in charge of the regulation of trade upon them, especially as no complaint was made that their regulations were unjust, or that they discriminated unfairly as against the citizens or the business of other States. When, in 1830, steam-power began to be applied to the propulsion of vehicles upon land, the same reasons as regards control continued to prevail. The roads constructed for such vehicles were authorized by and built under the authority of the States; the corporate charters under which they were operated, and which prescribed the rights, privileges, and powers of the associated owners were State laws; the States determined for them the measure of their taxation, and limited if it seemed politic their charges and their profits. The States thus touched them so nearly in all their interests and all their functions that Federal intervention seemed not only unnecessary but intrusive unless State power should be abused; and the abuse not often appearing, intervention was scarcely thought of by any one.

For a long time, therefore, the power of the Federal Government in the regulation of commerce between the States was put forth by way of negation rather than affirmatively; that is to say, it was put forth in restraint of excessive State power when it appeared, instead of by way of affirmative national regulation. The national restraint, when there was any, was commonly effected by invoking the action of the judicial department of the Government, and by its assistance arresting such State action as appeared to constitute an unauthorized interference with interstate traffic and intercourse. This special intervention, whether in the exercise of an original jurisdiction, as in the *Wheeling Bridge* case, reported in 13 Howard, 518, or under an appellate authority, as in *Ward v. Maryland* (12 Wallace, 418), and *Welton v. Missouri* (91 United States Reports, 275), has been important and useful in a considerable number

of cases, but in the nature of things it could not accomplish the purposes of general regulation. On the other hand, the effect was to leave the corporations, into whose hands the internal commerce of the country had principally fallen, to make the law for themselves in many important particulars—the State power being inadequate to complete regulation, and the national power not being put forth for the purpose.

The common law still remained operative, but there were many reasons why it was inadequate for the purposes of complete regulation. One very obvious reason was that the new method of land transportation was wholly unknown to the common law, and was so different from those under which common-law rules had grown up, that doubts and differences of opinion as to the extent to which those rules could be made applicable were inevitable. A highway of which the ownership is in private citizens or corporations who permit no other vehicles but their own to run upon it bears obviously but faint resemblance to the common highway upon which every man may walk or ride or drive his wagon or his carriage. If we undertake to apply to the one the rules which have grown up in regulation of the others there must necessarily be a considerable period in which the state of the law will, in many important particulars, be uncertain, and while that continues to be the case, those who have the power to act and who must necessarily act by rule and according to some established system, will for all practical purposes make the law, because the rule and the system will be of their establishment.

Such, to a considerable extent, has been the fact regarding the business of transporting persons and property by rail.

Those who have controlled the railroads have not only made rules for the government of their own corporate affairs, but very largely also they have determined at pleasure what should be the terms of their contract relations with others, and others have acquiesced, though oftentimes unwilling, because they could not with confidence affirm that the law would not compel it, and a test of the question would be difficult and expensive. The carriers of the country were thus enabled to determine in great measure what rules should govern the transportation of persons and property; rules which intimately concern the commercial, industrial, and social life of the people.

The circumstances of railroad development tended to make this indirect and abnormal law-making exceedingly unequal and oftentimes oppressive. When railroads began to be built the demand for participation in their benefits went up from every city and hamlet in the land, and the public was impatient of any obstacle to their free construction and of any doubts that might be suggested as to the substantial benefit to flow from any possible line that might be built. Under an imperative popular demand general laws were enacted in many States which enabled projectors of roads to organize at pleasure and select their own lines, and where there were no such laws the grant of a special charter was almost a matter of course, and the securities against abuse of corporate powers were little more than nominal. For a long time the promoter of a railway was looked upon as a public benefactor, and laws were passed under which municipal bodies were allowed to give public money or loan public credit in aid of his schemes on an assumption that almost any road would prove reasonably remunerative, but that in any event the indirect advantages which the public would reap must more than compensate for the expenditures.

In time it came to be perceived that these sanguine expectations were delusive. A very large proportion of all the public moneys in-

vested in railroads was wholly sunk and lost. Many roads were undertaken by parties who were without capital, and who relied upon obtaining it by a sale of bonds to a credulous public. The corporation thus without capital was bankrupt from its inception, and the corporators were very likely to be mere adventurers who would employ their chartered powers in such manner as would most conduce to their personal ends.

It is striking proof of the recklessness of corporate management that 108 roads, representing a mileage of 11,066, are now in the hands of receivers, managing them under the direction of courts, whose attention is thus necessarily withdrawn from the ordinary and more appropriate duties of judicial bodies. So serious has been the evil of bringing worthless schemes into existence and making them the basis for an appropriation of public moneys or for the issue of worthless evidences of debt, that a number of the States have so amended their constitutions as to take from the legislature the power either to lend the credit of the State in aid of corporations proposing to construct railroads, or to authorize municipal bodies to render aid, either in money or credit. State legislation has at the same time been in the direction of making compulsory the actual payment of a bona fide capital before a corporation shall be at liberty to test the credulity of the public by an issue of negotiable securities.

When roads were built for which the business was inadequate, the managers were likely to seek support by entering upon competition for business which more legitimately belonged to the other roads, and which could only be obtained by offering rates so low that if long continued they must prove destructive. A competitive warfare was thus opened up in which each party endeavored to underbid the other, with little regard to prudential considerations, and freights were in a great many cases carried at a loss, in the hope that in time the power of the rival to continue the strife would be crippled and the field practically left to a victor who could then make its own terms with customers. When the competition was less extreme than this there was still a great deal of earnest strife for business, some of which was open and with equal offerings of rates and accommodations to all, but very much of which was carried on secretly, and then the very large dealers practically made their own terms, being not only accommodated with side tracks and other special conveniences, but also given what were sometimes spoken of as wholesale rates, or perhaps secret rebates, which reduced the cost to them of transportation very greatly below what smaller dealers in the same line of business were compelled to pay. Such allowances were sufficient of themselves in very many cases to render successful competition, as against those who had them, practically impossible.

The system of making special arrangements with shippers was in many parts of the country not confined to large manufacturers and dealers, but was extended from person to person under the pressure of alleged business necessity, or because of personal importunity or favoritism, and even in some cases from a desire to relieve individuals from the consequences of previous unfair concessions to rivals in business. The result was that shipments of importance were commonly made under special bargains entered into for the occasion, or to stand until revoked, of which the shipper and the representative of the road were the only parties having knowledge. These arrangements took the form of special rates, rebates, and drawbacks, underbilling, reduced classification, or whatever might be best adapted to keep the transaction from the public; but the public very well understood that private arrange-

ments were to be had if the proper motives were presented. The memorandum book carried in the pocket of the general freight agent often contained the only record of the rates made to the different patrons of the road, and it was in his power to place a man or a community under an immense obligation by conceding a special rate on one day, and to nullify the effect of it on the next by doing even better by a competitor.

The system, if it can be called such, involved a great measure of secrecy, and its necessary conditions were such as to prevent effective efforts to break it down, though the willingness to make the effort was not wanting among intelligent shippers. It was of the last importance to the shipper that he be on good terms with those who made the rates he must pay; to contend against them was sometimes regarded as a species of presumption which was best dealt with by increasing existing burdens; and the shipper was cautious about incurring the risk. Nevertheless it was a common observation, even among those who might hope for special favors, that a system of rates, open to all and fair as between localities, would be far preferable to a system of special contracts into which so large a personal element entered or was commonly supposed to enter. Permanence of rates was also seen to be of very high importance to every man engaging in business enterprises, since without it business contracts were lottery ventures. It was also perceived that the absolute sum of the money charges exacted for transportation, if not clearly beyond the bounds of reason, was of inferior importance in comparison with the obtaining of rates that should be open, equal, relatively just as between places, and as steady as in the nature of things was practicable.

Special favors or rebates to large dealers were not always given because of any profit which was anticipated from the business obtained by allowing them; there were other reasons to influence their allowance. It was early perceived that shares in railroad corporations were an enticing subject for speculation, and that the ease with which the hopes and expectations of buyers and holders could be operated upon pointed out a possible road to speedy wealth for those who should have the management of the roads. For speculative purposes an increase in the volume of business might be as useful as an increase in net returns; for it might easily be made to look to those who knew nothing of its cause like the beginning of great and increasing prosperity to the road. But a temporary increase was sometimes worked up for still other reasons; such as to render plausible some demand for an extension of line, or for some other great expenditure, or to assist in making terms in a consolidation, or to strengthen the demand for a larger share in a pool.

Whatever was the motive, the allowance of the special rate or rebate was essentially unjust and corrupting; it wronged the smaller dealer, oftentimes to an extent that was ruinous, and it was very generally accompanied by an allowance of free personal transportation to the larger dealer, which had the effect to emphasize its evils. There was not the least doubt that had the case been properly brought to a judicial test these transactions would in many cases have been held to be illegal at the common law; but the proof was in general difficult, the remedy doubtful or obscure, and the very resort to a remedy against the party which fixed the rates of transportation at pleasure, as has already been explained, might prove more injurious than the rebate itself. Parties affected by it, therefore, instead of seeking redress in the courts, were more likely to direct their efforts to the securing of similar favors on their own behalf. They acquiesced in the supposition

that there must or would be a privileged class in respect to rates, and they endeavored to secure for themselves a place in it.

Personal discrimination in rates was sometimes made under the plausible pretense of encouraging manufacturers or other industries. It was perhaps made a bargain in the establishment of some new business or in its removal from one place to another that its proprietors should have rates more favorable than were given to the public at large; and this, though really a public wrong, because tending to destroy existing industries in proportion as it unfairly built up others, was generally defended by the parties to it on the ground of public benefit.

Local discriminations, though not at first blush so unjust and offensive, have nevertheless been exceedingly mischievous, and if some towns have grown, others have withered away under their influence. In some sections of the country if rates were maintained as they were at the time the interstate commerce law took effect, it would have been practically impossible for a new town, however great its natural advantages, to acquire the prosperity and the strength which would make it a rival of the towns which were specially favored in rates; for the rates themselves would establish for it indefinitely a condition of subordination and dependence to "trade centers." The tendency of railroad competition has been to press the rates down and still further down at these trade centers, while the depression at intermediate points has been rather upon business than upon rates. In very many cases it has resulted in the charging of more for a short than for a long haul on the same line in the same direction; and though this has been justified by railroad managers as resulting from the necessities of the situation, it is not to be denied that the necessity has in many cases been artificially created and without sufficient reason.

The inevitable result was that this management of the business had a direct and very decided tendency to strengthen unjustly the strong among the customers and to depress the weak. These were very great evils, and the indirect consequences were even greater and more pernicious than the direct, for they tended to fix in the public mind a belief that injustice and inequality in the employment of public agencies were not condemned by the law, and that success in business was to be sought for in favoritism rather than in legitimate competition and enterprise.

The evils of free transportation of persons were not less conspicuous than those which have been mentioned. This, where it extended beyond the persons engaged in railroad service, was commonly favoritism in a most unjust and offensive form. Free transportation was given, not only to secure business, but to conciliate the favor of localities and of public bodies; and, while it was often demanded by persons who had, or claimed to have, influence which was capable of being made use of to the prejudice of the railroads, it was also accepted by public officers of all grades and of all varieties of service. In these last cases the past system was particularly obnoxious and baneful; for if any return was to be made or was expected of public officers, it was of something which was not theirs to give, but which belonged to the public or to constituents. A ticket entitling one to free passage by rail was often more effective in enlisting the assistance and support of the holder than its value in money would have been, and in a great many cases it would be received and availed of when the offer of money, made to accomplish the same end, would have been spurned as a bribe. Much suspicion of public men resulted, which was sometimes just, but

also sometimes unjust and cruel; and some deterioration of the moral sense of the community, traceable to this cause, was unavoidable while the abuse continued. The parties most frequently and most largely favored were those possessing large means and having large business interests.

The general fact came to be that in proportion to the distance they were carried those able to pay the most paid the least. One without means had seldom any ground on which to demand free transportation, while with wealth he was likely to have many grounds on which he could make it for the interest of the railroad company to favor him, and he was sometimes favored with free transportation not only for himself and his family but for business agents also, and even sometimes for his customers. The demand for free transportation was often in the nature of blackmail, and was yielded to unwillingly and through fear of damaging consequences from a refusal. But the evils were present as much when it was extorted as when it was freely given.

These were some of the evils that made interference by national legislation imperative. But there were others that were of no small importance. Rates when there was no competition were sometimes so high as to be oppressive, and when competition existed by lines upon which the public confidently relied to protect them against such a wrong, a consolidation was effected and the high rates perpetuated by that means. In some cases the roads, created as conveniences in transportation, were so managed in respect to business passing or destined to pass over other roads that they constituted hinderances instead of helps, to the great annoyance of travel and to the serious loss of those who intrusted their property to them. Then their rates were changed at pleasure and without public notification; their dealings to a large extent were kept from the public eye, the obligation of publicity not being recognized; and the public were therefore without the means of judging whether their charges for railroad service were reasonable and just or the contrary.

But the publications actually made only increased the difficulties. Railroad rates, difficult enough to be understood by the uninitiated when printed plainly in one general tariff with classification annexed, became mysterious enigmas when several different tariffs were printed, as was the case in some sections; some relating to competitive points and others to what were called local points, and each referring to voluminous and perhaps different classifications, which were printed but not posted, and which were observed or disregarded at will in the rates as published. Such unsystematic and misleading publications naturally led to many overcharges and controversies, and naturally invited and favored special rates and injurious preferences.

These were serious evils; and they not only to some extent blunted the sense of right and wrong among the people and tended to fix an impression upon the public mind that unfair advantages in the competition of business were perfectly admissible when not criminal, but they built up or strengthened a class feeling and embittered the relations between those who for every reason of interest ought to be in harmony. It was high time that adequate power should be put forth to bring them to an end. Railroads are a public agency. The authority to construct them with extraordinary privileges in management and operation is an expression of sovereign power, only given from a consideration of great public benefits which might be expected to result therefrom. From every grant of such a privilege resulted a duty of protection and regu-

lation, that the grant might not be abused and the public defrauded of the anticipated benefits.

The abuses of corporate authority to the injury of the public were not the only reasons operating upon the public mind to bring about the legislation now under consideration; some other things which in their direct effects were wrongs to stockholders only had their influence also, and this by no means a light one. The manner in which corporate stocks were manipulated for the benefit of managers and to the destruction of the interest of the owners was often a great scandal, resulting sometimes in the bankruptcy and practical destruction of roads which, if properly managed, would have been not only profitable but widely useful. This in its direct results might be a wrong to individuals only, but in its indirect influence it was a great public wrong also.

The most striking and obvious fact in such a case commonly is that persons having control of railroads have in a very short time by means of the control amassed great fortunes. The natural conclusion which one draws who must judge from surface appearances is, that these fortunes are unfairly acquired at the expense of the public; that they represent excessive charges on railroad business, or unfair employment of inside privileges, and furnish in themselves conclusive evidence that current rates are wrong and probably extortionate. An impression of this sort, when it happens to be wide of the fact, is for many reasons unfortunate. It creates or strengthens a prejudice against all railroad management—the honest as well as the dishonest—which affects the public view of all railroad questions; it renders it more difficult to deal with such questions calmly and dispassionately; it makes the public restive under the charges they are subjected to, even though they be moderate and necessary; it tends to strengthen a feeling among the unthinking that capital represents extortion. However careful, considerate, fair, and just the management of any particular road may be, and however closely it may confine itself to its legitimate business, it is impossible that it should wholly escape the ill effects of this prejudice, which are visited upon all roads because some conspicuous railroad managers have by their misconduct given in the public mind a character to all.

Evils of the class last mentioned were difficult of legislative correction, because they sprang from the over-confidence of stockholders in the officers chosen to manage their interests, and whose acts at the time they perhaps assented to. But if capable of correction by any legislative authority, it was in general that of the States, not that of the nation. The States in the main conferred the corporate power, and it was for the States by their legislation to provide for the protection of the individual interests which were brought into existence by their permission. The National Government had to do with the commerce which these artificial entities of State creation might be concerned in. Nevertheless, the manifest misuse of corporate powers strengthened the demand for national legislation, and this very naturally, because the private gains resulting from corporate abuse were supposed to spring, to some extent at least, from excessive burdens imposed upon the commerce which the nation ought to regulate and protect.

For the purpose of correcting the evils above alluded to, so far as it was constitutionally competent for national legislation to do so, the act to regulate commerce lays down certain rules to be observed by the carriers to which its provisions apply, which are intended to be and emphatically are rules of equity and equality, and which, if properly observed, ought to and in time no doubt will restore the management of the transportation business of the country to public confidence.

THE ACT TO REGULATE COMMERCE.

The leading features of the act are the following:

All charges made for services by carriers subject to the act must be reasonable and just. Every unjust and unreasonable charge is prohibited and declared to be unlawful.

The direct or indirect charging, demanding, collecting, or receiving, for any service rendered, a greater or less compensation from any one or more persons than from any other for a like and contemporaneous service, is declared to be unjust discrimination and is prohibited.

The giving of any undue or unreasonable preference, as between persons or localities, or kinds of traffic, or the subjecting any one of them to undue or unreasonable prejudice or disadvantage, is declared to be unlawful.

Reasonable, proper, and equal facilities for the interchange of traffic between lines, and for the receiving, forwarding, and delivering of passengers and property between connecting lines is required, and discrimination in rates and charges as between connecting lines is forbidden.

It is made unlawful to charge or receive any greater compensation in the aggregate for the transportation of passengers or the like kind of property under substantially similar circumstances and conditions for a shorter than for a longer distance over the same line in the same direction, the shorter being included within the longer distance.

Contracts, agreements, or combinations for the pooling of freights of different and competing railroads, or for dividing between them the aggregate or net earnings of such railroads or any portion thereof, are declared to be unlawful.

All carriers subject to the law are required to print their tariffs for the transportation of persons and property, and to keep them for public inspection at every depot or station on their roads. An advance in rates is not to be made until after ten days' public notice, but a reduction in rates may be made to take effect at once, the notice of the same being immediately and publicly given. The rates publicly notified are to be the maximum as well as the minimum charges which can be collected or received for the services respectively for which they purport to be established.

Copies of all tariffs are required to be filed with this Commission, which is also to be promptly notified of all changes that shall be made in the same. The joint tariffs of connecting roads are also required to be filed, and also copies of all contracts, agreements, or arrangements between carriers in relation to traffic affected by the act.

It is made unlawful for any carrier to enter into any combination, contract, or agreement, expressed or implied, to prevent, by change of time schedules, carriage in different cars, or by other means or devices, the carriage of freights from being continuous from the place of shipment to the place of destination.

These, shortly stated, are the important provisions of the act which undertakes to prescribe the duties and obligations of the carriers which by its passage are brought under Federal control. Some important exceptions are made by the twenty-second section, which provides:

That nothing in this act shall apply to the carriage, storage, or handling of property free or at reduced rates for the United States, State, or municipal governments, or for charitable purposes, or to or from fairs and expositions for exhibition thereof, or the issuance of mileage, excursion, or commutation passenger tickets; nothing in this act shall be construed to prohibit any common carrier from giving reduced rates

to ministers of religion; nothing in this act shall be construed to prevent railroads from giving free carriage to their own officers and employes, or to prevent the principal officers of any railroad company or companies from exchanging passes or tickets with other railroad companies for their officers and employes; and nothing in this act contained shall in any way abridge or alter the remedies existing at common law or by statute, but the provisions of this act are in addition to such remedies.

These provisions, it will be seen, are not intended to qualify to any injurious extent the general rules of fairness and equality which the act has been so careful to prescribe, and the exceptions may all be said to be authorized on public considerations.

In the performance of its duties the Commission has had occasion to decide that the transportation of Indian supplies may be free or at reduced rates under this section (1 Interstate Commerce Commission Reports, p. 15), as also may be that of the agents and material of the United States Fish Commission (*Ibid.*, p. 21). The question of what may be included under the exception made for charitable purposes has never come before the Commission in such form as to call for an expression of opinion. It will be noted that in terms it applies to property only, not to persons.

By the eleventh section of the act this Commission is created and established, and other sections prescribe its duties and powers. Those sections it will be necessary to consider somewhat at length further on.

The Commission was organized March 31, 1887, and entered at once upon the discharge of its duties. The other provisions of the act took effect April 5, 1887. The demands upon its attention were immediate, and some of them of a very perplexing nature. It will be more convenient to take notice of these under specific heads in connection with the provisions of the act under which they were severally presented for its action.

All which is respectfully submitted.

Dated December 1, 1887.

THOMAS M. COOLEY,
WILLIAM R. MORRISON,
AUGUSTUS SCHOONMAKER,
ALDACE F. WALKER,
WALTER L. BRAGG,
Interstate Commerce Commissioners.

REPORT

OF

THE POSTMASTER-GENERAL.

POST-OFFICE DEPARTMENT,
Washington, D. C., November 26, 1887.

SIR: The following report presents an account of the transactions of this Department and the operations of the postal service during the year ended with the 30th of June, 1887, the second complete fiscal year of your administration. The multitudinous statistics necessary to exhibit in detail the affairs of this extensive service will be found, intelligently digested, in the reports of the officers in charge of its several branches and the accompanying tables, subjoined as appendices hereto. But I shall attempt to summarize the principal facts and to deduce therefrom the reasonable anticipations and probable needs of the immediate future, with such recommendations as appear important for your consideration, or worthy of submission to the Congress. In prefatory explanation of the character of the suggestions to be made, the more particular presentation of the financial condition of the service may be briefly anticipated, and some observations submitted in respect to the policy and principles which should govern the direction and object of measures for enlargement of its usefulness.

The expectation of growth and improvement in the affairs of the postal service, indulged in previous reports, has been realized during the past year. In part arising from an extension of the limits of mailable matter of the fourth class—ordered to meet the requirements of trade—and from the receipts of the special-delivery service, but chiefly from the greater employment of all postal facilities consequent upon the rising business prosperity of the country, faithfully reflected in the postal service, the revenues have gained upon the preceding year by nearly \$4,840,000, attaining a height never reached before, despite the restrictive operation of various reductions in the rates of postage. Upon the other hand, the study of economy has not been without effect in restraining the necessarily rising scale of expenditure, so that the increase of cash disbursements has but little overstepped \$2,000,000.



Thus the deficiency charged upon the General Treasury, which two years since was a round seven millions and a year ago but about seventy thousand less, has been reduced almost three-sevenths, while the fair arguery from our present circumstances gives hope that during the current year it will nearly if not entirely disappear. If there shall remain at the year's end any excess of cash expenditure above receipts, it can not but be much less than the postages upon the mail matter of the Government itself, estimated to be at least two millions annually, and reasonably its debt to the postal service. It may, therefore, be fairly affirmed that from the beginning of the current fiscal year the postal service has again become substantially self-sustaining; and the prediction be ventured that if the revenues be not further crippled, and only a similar ratio of increasing expenditure be held, the next fiscal year will yield a surplus, which should, under the same conditions, annually increase.

It is proper, also, parenthetically, to add that expansion of the power and usefulness of the service has kept pace with its improved fiscal condition by much increase in the number of its post-offices, of its employés, of its routes and mileage of mail transportation, by additions to its fast mail, and other special features, and, indeed, in every branch of its work.

In this promising condition special interests may be expected to vigorously press for a reduction in rates of postage in some class of mail matter, always of specious appearance of popularity; indeed, their organization "for the improvement of the postal service" is already begun; but the general interest will perhaps rather require that a reduction of the rates of postage shall be deferred to a somewhat later period. The time is probably not distant when, if the wisest measures of economy be pursued, the rate of charge upon letters can be properly lowered to one cent an ounce, and some diminishment permitted in the postages upon merchandise and other matter. But the letter postage of the United States is now fixed at a rate below that of all other countries save one, and, when the distances of transportation are considered, is cheaper than in any other. And the combined receipts from all mail matter not of the first class fall far short of the cost of its handling; affording little claim, therefore, for less postage charges.

The taxation for the maintenance of the postal service by the imposition of postage levies on its beneficiaries commends itself as the justest form in which the burdens of government can be assessed upon citizens, if the assessments be laid with discriminating fairness. It must be conceded that the disproportionate levy upon newspapers and periodicals—which furnish perhaps one-third the weight and bulk of our mails, while they return but about one-fortieth of the revenue—violates this principle; but it has been yielded in this instance to the general advantages of a freer circulation of intelligence, the attainment of which should be regarded as a sufficient consideration.

Otherwise the present rates appear to recognize the differences between the different classes of matter with as near approximation of justice as can be attained in our currency; the greater burden being upon, and probably all the profit arising from, the carriage of first-class matter, which must make good the loss sustained in the other classes in order to a self-sustaining service.

The paramount duty of the Government, so far as concerns this Department, is to furnish the most perfect and useful postal facilities to the people, within the authority of the Constitution, which the skill of man can provide. It is due to the character of the citizens of this country, to their freedom and enlightenment, to their enterprise and activity, to their wealth and power, and especially to the intimacy of their personal relations maintained over so great an expanse of territory to an extent never equaled, hardly aimed at, elsewhere on the globe, from which arise the fraternity of feeling and community of interest that furnish the safest guaranties for the future stability and value of our Federal institutions. It is, indeed, their due as a personal, individual right, because the Government monopolizes the postal business, and forbids them all other attempts at self-service. Upon every ground the postal service rightfully urges a constant and exacting demand upon legislative and executive wisdom and labor for its enlargement and improvement to the utmost of perfectibility.

Whatever the postal revenue, whether it be sufficient to postal burdens or whether the General Treasury be chargeable for their support, this superior obligation remains unchanged and undeniable. The method by which the taxation which maintains the service is imposed—so that it be constitutional and not unjust or partial—is of far less consequence to the country than the character and efficiency of the facilities it affords. Yet, obvious as this principle of governmental duty appears to be, it will rarely command the same obedience in practical legislation or administration when, by abridgment of the postal revenues, the service imposes a heavy charge upon the General Treasury, as when its independent revenues are sufficient to meet its exigencies.

The present juncture in its affairs, while postage taxation is cheap and fair, and yet sufficient to promise a coming period of prosperity, appears to afford a favorable opportunity to direct the inauguration of measures of justice to postal servants, of improvement in appliances and methods, and of expansion of facilities which experience has shown to be desirable or an enterprising spirit may conceive to be prudently worthy of experiment. It is by no means intended to suggest either extravagant expenditure or any outlay without a profitable, even an immediately profitable, return. The most desirable measures in view are dictated by the soundest principles of economy, such as it is believed a wise manager would employ if the postal service were a private business instead of a public monopoly, and ought to be executed, as ought every branch of the public service to be performed, with unflinching frugality and prudent measurement of cost and ends, but without parsimony.

I shall venture to point out in their proper connection in the course of this report, although with necessarily limited and inadequate expression of the reasons which might be adduced in their favor, some of the objects which claim attention as apparently worthy of effort, and some of the steps which suggest themselves as proper to be taken towards their accomplishment. Among these objects there appear to be the most prominent and attractive the ascertainment and formulation of the true principles and rules to govern the provision of clerical force for post-offices, and to fix the grades and compensation of their officers and employés upon a just and discriminating basis; the establishment of a correct system for approximately uniform organization of the administrative and clerical force in offices of the higher classes; the provision of buildings for post-offices in communities of such size as to require an office independent of private affairs; the extension and perfection of the system of free delivery until all communities enjoy its privileges which are so situated as to make it their due; the thorough reformation of the system of employing and paying for railroad transportation; the establishment of additional fast-mail service until all the trunk lines of mail communication are so provided; provision for the instruction and examination of persons for appointment in the railway mail service; enlargement of the foreign parcels post system recently entered upon so as to embrace all countries with which a retail trade will be advantageous to our people; and the addition of some auxiliaries to our means of postal convenience calculated to enhance the utility of the service to the people.

If measures to these ends be taken with intelligent forecast and skillful adaptation, can it be doubted that our postal administration will be of greater value to the country—so vastly benefited, indeed, that our people will greatly prefer the continuance of the present moderate postage rates in order to secure such gains without perception of their cost? Yet it is confidently believed that if these forward steps be taken with fair prudence, their accomplishment will reduce rather than enlarge the annual ratio of increase in postal expenditures, and expedite the period when diminished rates of postage can be justly allowed with prudence and without partiality.

The considerations which may urge the acceptance of the various measures suggested, as well as the general policy, naturally arise upon an account of the present circumstances of those parts of the service to which they pertain, and, for the most part, require little more of argument than a clear exposition of the facts.

THE POST-OFFICES.

The supervision and care of post-offices, embracing their establishment and discontinuance, the appointment and qualification of postmasters, the adjustment of the salaries of such as belong to the salaried

classes, allowances and supplies for maintenance of the service in them, and the government of the carrier system at such as make free delivery of mail, are conducted through the office of the First Assistant Postmaster-General, and his report exhibits the figures which represent the changes and transactions of the past year.

The prosperity of the service is the prosperity of the post-offices, and the gains of the year are marked in their advancement. The number of salaried offices at its beginning was, of the first class, 75; of the second, 400; and of the third, 1,769; a total of 2,244 of the Presidential classes. By the annual review and readjustment, based upon the returns of their business for the four quarters ended with March 31, 1887, it was disclosed that on the 1st day of July the net gains of the several classes were 7 in the first, 35 in the second, and 50 in the third; making respective totals of 82 in the first, 435 in the second, and 1,819 in the third; in all, 2,336, a net increase of 92. This showing indicates less than the real facts, because there were other offices entitled to advancement from the fourth to the third class, which, by delays in the necessary reports, were postponed until the next quarter. And on the 1st of October there were added to the third class 45 offices by assignment pursuant to law; thus making the total number of the third class, at the time of this report, 1,864, and of all Presidential offices, 2,381; the highest yet reached in the history of the Department.

By this annual adjustment many salaries were raised within the several classes, and compensation of the Presidential postmasters as then existing was fixed for the current year at \$3,880,300, a net increase of \$194,800, or 5 + per cent. upon the adjustment of last year.

The changes resulting in this increase were as follows:

Total number of first, second, and third class post-offices whereat increases were made July 1, 1887			944
The aggregate of such increases being			\$118 186
New offices during fiscal year:			
	No.	Salaries.	
October 1, 1886	47	\$49, 100	
January 1, 1887	49	52, 000	
April 1, 1887	20	21, 000	
July 1, 1887	2	2, 100	124, 200
Total			242, 286
Less reductions and changes:			
Relegated to the fourth class July 1, 1887, 22 offices, with salaries of		\$22, 800	
Reductions of salary at 152 Presidential offices		18, 100	
Presidential offices discontinued:			
November 1, 1886, East New York, N. Y.		1, 500	
July 1, 1887, South Pueblo, Colo.		2, 000	
July 1, 1887, Derby, Conn.		1, 000	
July 1, 1887, Brick Church, N. J.		2, 100	47, 600
Net increase			194, 800

To this sum is now to be added the salaries of the offices assigned to the third class on the 1st of October, being \$55,000; and the operation of the statute will doubtless cause further additions on the 1st of January and the 1st of April next. In the last report, the defect in the statute

it stands, whereby some offices rise from the fourth to the third class during the year which at the end of it must be relegated by the annual review again to the fourth class, was pointed out and its correction suggested. The inconvenience occasioned, every change requiring a new appointment, commission, bond, and oath at each office affected, might be obviated by the slight amendment recommended.

Twenty-two offices which had been before assigned to the third class, fell back into the fourth at the end of the year, by application of the statutory rule to their respective businesses. Of these, nine had been assigned to the third class during the last fiscal year, and illustrate the defect mentioned.

The fourth class comprised on the 1st day of July 52,821 offices, the number having increased during the year by 1,543—the establishments having been 3,043, and the discontinuances 1,500. The new offices were 439 less than the previous year, the number of that year being unusually large because of an accumulation of undisposed of applications from the former year. The number of discontinuances exceeded that of the former year by 380, one of the good products of the systematic inspection of fourth-class offices begun in accordance with the plan discussed in the last report, by which the useless have begun to be weeded out.

The net increase in the number of post-offices was distributed in different portions of the country as follows: To the New England States, 45; to the five Middle States and the District of Columbia, 202; to the fourteen Southern States and the Indian Territory, 785; to the three Pacific slope States and Territories, 115; and to the States and Territories of the West and Northwest, 396. The largest increase in any State fell to Pennsylvania, amounting to 118, and in Nevada alone there was a decrease, 8 in number, but 7 having been established while 15 were discontinued.

The total number of post-offices of all classes on the 1st day of July, 1887, stood at 55,157, besides which there were also 613 branch offices or stations. Of the branch offices, all auxiliary to the post-offices in the larger cities, 458 are stations for the sale of stamps and stamped paper only, maintained at small cost; 41 others are also registration offices; 35 more are both registry and money-order stations beside; and 79 more are carrier stations in addition, except that 6 of them do no money-order business. The carrier stations are generally post-offices in all but name, having a superintendent, rented apartments, and suitable allowances.

Among all the post-offices, 7,745 were on the 1st day of July money-order offices, in addition to 108 money-order stations; and 197 offices beside were authorized to issue postal notes. The tables which the First Assistant Postmaster-General has exhibited to his report give in detail the statistics of the various changes in the several States and Territories for the year under review.

To bring the general figures up to a more recent date, the whole number of post-offices on the 1st day of October had become 55,434, of which 2,381 were salaried or Presidential offices, distributed in classes as before mentioned, and 53,053 were fourth class. Besides these were 625 branch offices or stations, an increase of 12 for the sale of stamps only. Of the whole, 8,089 were money-order offices and 110 money-order stations.

The Appointments of postmasters numbered altogether during the fiscal year 13,079, of which 6,863 were to fill vacancies happening upon the expiration of commissions or by resignations; 2,584 upon removals or suspensions; 589 by death; and 3,043 to newly established offices. Among these appointments, 893 were upon your commission to vacancies which happened from the causes and in the respective numbers following: By expiration of commission, 350; by resignation, 122; by removal or suspension, 237; by death, 39; and upon the assignment of fourth-class offices to a Presidential class, 145.

I renew the tabular representation in summary form of the statistics of appointment given in the last report, with the addition of the year's figures, thus covering a period of twenty years.

Statement of postmasters appointed during each fiscal year between June 4, 1868, and June 30, 1887, with number of post-offices in operation at the end of each fiscal year mentioned, as well as the number discontinued each year.

	For the year ended June 30—									
	1868.	1869.	1870.	1871.	1872.	1873.	1874.	1875.	1876.	1877.
Number of post-offices established....	2,167	1,653	2,359	2,467	2,703	2,462	2,318	2,313	1,993	1,835
Number of post-offices discontinued...	849	1,028	962	854	885	1,061	1,268	1,060	1,137	863
Total number remaining in operation.	26,481	27,106	28,492	30,045	31,863	33,214	34,294	35,547	36,483	37,245
Appointments on resignations and commissions expired.....	4,021	3,924	4,105	4,307	4,691	4,802	5,254	6,017	5,140	4,899
Appointments on removals and suspensions.....	1,194	2,691	1,449	1,179	939	945	907	974	1,045	711
Appointments on changes of names and sites.....	167	160	204	178	199	193	477	187	251	215
Appointments on deaths of postmasters.....	267	230	293	309	328	386	368	350	333	297

	For the year ended June 30—									
	1878.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.
Number of post-offices established....	2,784	2,676	2,462	2,015	3,166	3,253	3,414	2,121	3,482	3,043
Number of post-offices discontinued...	871	1,079	1,328	1,415	1,447	1,621	1,260	886	1,120	1,500
Total number remaining in operation.	39,258	40,855	43,012	44,512	46,231	47,863	50,017	51,252	53,614	55,157
Appointments on resignations and commissions expired.....	5,117	5,627	6,322	6,217	7,346	7,734	7,265	6,204	9,112	6,863
Appointments on removals and suspensions.....	748	558	561	938	1,021	705	513	610	9,566	2,584
Appointments on changes of names and sites.....	184	187	690	242	349	342	234	297	463	482
Appointments on deaths of postmasters.....	338	378	356	421	461	408	477	412	567	589

A change of administration, resulting from the success in the elections of a political party for a long period previously excluded from participation in Government service, naturally constitutes a peculiar epoch in the course of appointments of postmasters, from which statistical information may be exhibited with an interest, if not a value, not attaching to the ordinary annual periods.

Of the offices within the Presidential classes, a careful review of the registers presents the following figures of the action taken between the date of your inauguration and the termination of the fiscal year under review. On the 4th of March, 1885—

The entire number of Presidential post-offices was	2,339
Of these, have been discontinued	5
And relegated to fourth-class	185
	<hr/> 190

Leaving a remainder of..... 2,149

The following statement shows the comparative status of the incumbents of these offices at the end of the fiscal year, so far as disclosed by number and time of appointment, and the causes of vacancies :

New appointments, on expiration of commissions	868
New appointments, on voluntary resignations	415
New appointments, on deaths	34
New appointments, on suspensions or removals	492
Reappointments, on expiration of commissions	27
Remaining under former commissions	313
	<hr/> 2,149

Thus, the same incumbents held at the end of the year 340 of these offices, and new ones were in possession of 1,809.

Besides the 27 reappointments, you were necessitated to choose 1,890 new appointees to these offices, because of the happening of second, and even third, vacancies in some. To succeed your own appointees in a portion, you have subsequently named others, respectively, for the following causes :

On suspensions or removals	6
On resignations	45
On deaths	30
In all	<hr/> 81

Of the 185 offices which, being Presidential on the 4th of March, 1885, subsequently fell to the fourth class, 129 were so retired July 1, 1885, 41 a year later, and 15 on the 1st of the last July; and among these, while they were so in the Presidential class, you took action in 35 cases in which vacancies occurred, respectively, as follows :

By expiration of commissions	8
By resignations	15
By death	1
By suspensions	11
	<hr/> 35

During the period in question, 203 fourth-class offices, in various numbers at the different quarter-yearly periods, were advanced to the third class, whereby appointments were required of you. These were made in 170 cases by choice of the then incumbents, and in 28 by commissioning new officers.

Of the additions to the Presidential list, 16 have subsequently returned to the fourth class, including some in which no action was taken during their short duration as salaried offices.

Recapitulating, the summary is:

OF OFFICES.

Number of Presidential post-offices, March 4, 1885.....	2,337
Number advanced from fourth class since	203
	2,540
Of which, discontinued	5
Retired to fourth class	201
	98
Leaving in Presidential classes, July 1, 1887.....	2,338

OF APPOINTMENTS.

New appointments:	
On expiration of commissions.....	876
On voluntary resignations	476
On deaths	65
On suspensions or removals.....	509
Reappointments on expiration of commissions.....	27
New appointments in offices become Presidential.....	38
Reappointment in offices become Presidential	170
	2,150
Total cases of action	313
Offices unchanged since March 4, 1885.....	313

Among the Presidential postmasters in office on the 4th of March, 1885, the percentage of suspensions and removals so shown is 21.5, and the percentage of their voluntary resignations during the period of two years and upwards 18.3.

In the fourth-class offices it is impracticable to prepare any corresponding statement without an amount of labor in the examination of the registers beyond the power of the limited clerical force in the Department to yield from their ordinary duties. It would possess even less value, because, had no other principle been operative, the local circumstances in so many such offices subordinate political considerations of choice, that no approximately just inference would attach to the dates of appointment, either of the prior incumbents or new appointees.

On the 7th of March, 1885, the entire number of the fourth-class offices was 49,017. The new establishments since have been 6,599, of which 74 in the fiscal year 1885, 3,482 in 1886, and 3,043 in 1887; and the discontinuances in the corresponding periods were 72, 1,120, and 1,500, respectively, a total of 2,692, besides a net addition to the Presi-

dential classes of 103, leaving the number in the fourth-class on the 1st day of July last, as stated, 52,821. In all these offices the total number of appointments have been 36,252, and the causes of them during the several periods were as follows :

	Resignations.	Deaths.	Removals.	New offices.
Between March 7 and June 30, 1885.....	1, 755	130	899	74
Fiscal year 1886.....	8, 344	563	9, 319	3, 482
Fiscal year 1887.....	6, 246	550	2, 347	3, 043
Total.....	16, 345	1, 243	12, 065	6, 599

Among the resignations, deaths, and removals which have occasioned these appointments, many have been of officers appointed within the period under review; but, as already stated, the requisite labor of search has forbidden the extended examinations necessary to accurately give the number. The causes for changes from resignations and removals are proportionally more numerous in fourth-class offices than in the Presidential, and the desirability of their possession less. To apply the proportion derived by the exact statement of the course of action in the latter will indicate, therefore, a less, rather than a greater, number of vacancies following my appointments than the actual facts; and, moreover, as fourth-class officers hold during pleasure, no vacancies occur and no changes are made upon expiration of commissions; but no better mode of approximating the facts appears practicable. Applying this comparison, there must be deducted from the total number of appointments upon resignations, deaths, and removals, being 29,653, for second or third appointments to the same offices at least 1,271, leaving the number of offices actually changed to be 28,382.

This shows the percentage of removals of fourth-class postmasters to have been 24.4, and of their voluntary resignations 31.9 since March 7, 1885.

To ascertain the number of postmasters of this class who have remained in office since prior to the change of administration, allowance must be made of the then existing offices since discontinued, estimated at 2,144; and thereupon subtracting the number of the changed officers, as above found, the number still remaining would be 18,491, or a little above 39 per cent. of the incumbents of offices then existing and not since abolished.

The Proper Compensation of Postmasters, a subject fruitful of legislative effort, still presses upon the attention of the Department and appears to justly demand further consideration by the Congress. It was a topic of discussion in the last report, and, in again presenting it, much of what was then said may be repeated. It is more or less confused, as the statutes now stand, with the provision of clerical force for such offices as require more personal service than the postmaster alone can properly render. This tends to relative injustice between

postmasters, has excited much discontent, and, in part, has stimulated their association to unitedly represent to Congress their opinions and claims. It is believed that the two subjects may more wisely be distinguished and each treated independently with greater justice and better results to the service, by suitable legislation addressed to the peculiar circumstances and principles affecting them severally.

The statutes proceed upon two theories of compensation, salaries to some and commissions to others—a necessary difference, inherent in the varying nature of their business and supported by experience of former attempts to pay salaries to all, but a difference which ought to be first applied with discrimination and then maintained in administration; and success in neither can be truly affirmed of the existing law.

To more than 95 per cent. of the postmasters (53,053 out of 55,434 on the 1st of October), compensation, in addition to money-order and special delivery business, is awarded by the allowance quarterly of all box-rents collected by them, and of graduated commissions upon the postages on matter mailed, deficient postage collected, and sales of waste paper and twine, at their respective offices; all adjusted by the Auditor in settlement of their accounts. When this measurement yields \$250 per quarter for four successive quarters, exclusive of fees on money-order and special-delivery business, the Auditor reports the office to the Department, and it is then assigned to the salaried class, and the salary fixed upon an entirely different basis, the volume of gross receipts at the office arbitrarily rated by the act of 1883.

Compensation of the fourth-class postmaster is graded upon the theory that it should be sufficient to remunerate all the expenses of his office as well as his personal service; and hence not only all box-rents in every case, but all postages canceled up to \$50 per quarter, and round commissions upon the residue, are awarded him. On the other hand, compensation by salary naturally implies the recompense of the postmaster's personal service only, irrespective of the expenses of the business, which then belongs wholly to the Government. If this distinction is fairly maintained in the provision for the two classes, with a just and appreciative perception of their circumstances, the chief arbitrary determination required is of the line of division between them; and even this may rest approximately upon some natural boundary. It is not now, perhaps, although improvable, seriously misplaced; nor does much room exist for postmasters of the fourth class justly to complain of the measure of their recompense.

But on directing attention to the salaried postmasters it is disclosed that the theory of division is quite discarded in the treatment of by far the greater part. Notwithstanding the salaries of all are fixed upon the same general basis, the gross receipts adjusted to a graduated scale, they are arbitrarily divided into three classes, by mere numerical reference to the thousands touched by that scale, and very different consequences awarded to the different classes. To such as thus receive \$2,000

or more the full salary is bestowed without abatement, and adequate provision made of an office, with all its accessories, and of all clerical assistance, supplies, and other expenses of equipment and maintenance. The second-class postmaster especially is the favorite of the statute; charged generally with duties which exact but a moderate share of a competent officer's time, and sustaining no drawback in any necessity of applying part of his salary to the expenses of his office.

Yet from the third-class postmaster, who has so much less than the others in nominal salary, is taken "even that which he hath." To him no allowance (except in a case which is no exception, that of the separating office) for rent, light, fuel, clerical service, stationery, or other outgo whatever is made, but all must be defrayed from his miscalled salary, which thus proves too often, instead of the apparently promised reward of labor, but the weak residuum of a well-nigh exhausted cup.

The consequences are, first, injustice, more or less, to all postmasters of the third class, and frequent instances of grotesque inequality and unfairness in the proportion of labor and responsibility to net compensation; and, secondly, a resulting tendency to poorer provision and service in such offices, only counterbalanced by the pride and sense of duty of the officer.

Salaries of the third class vary from \$1,000, where gross receipts are \$1,900 and not exceeding \$2,100, to \$1,900, where gross receipts reach \$7,000 but not over \$8,000; and immediately following, salaries of the second class rise from \$2,000 for gross receipts of \$8,000 and not over \$9,000, to \$2,900, for gross receipts of \$35,000 or more and not exceeding \$40,000. Thus, if the business of an office be between \$7,900 and \$8,000, the postmaster must bear the entire charges of it and have for himself only what shall be left of \$1,900; while if the business be but \$100 more the postmaster may take \$2,000 net for his services, and these often more of mere easy supervision than actual office work. Instances have come to my attention where third-class postmasters with salaries of but \$1,600 to \$1,700 have been compelled, in order to provide such service as to satisfy their sense of personal honor in performance of public duty, to make an annual outlay of from \$1,000 to \$1,300, besides giving continuing personal labor. It is obvious, indeed, that so great is the difference between the decent provision of an office for the transaction of postal business yielding annually \$7,000 or more and one yielding but from \$1,900 to \$2,100, it may be almost affirmed that as a third-class postmaster's business and salary increase his compensation diminishes; and it is to be safely asserted that, in a large majority of cases at least, his *proportionable* compensation (to labor and responsibility) will surely diminish if he fairly discharges his obligations to the service. Such a condition is neither creditable to the justice of the Government nor wisely conducive to the finished service which should be exacted of postmasters to the public."

The appropriate remedy for relief of the incongruities now existing seems to be in seeking a less arbitrary and more natural classification of the post-offices and the proper execution of the theory of the division by such provision for the several classes as the character and amount of their respective business require.

It appears more in accordance with the affairs of their offices to divide postmasters into two, or perhaps three classes. The largest should comprise those who serve the smaller communities, and whose limited business requires for office room but a share of the space in some apartment employed by the postmaster for other uses of his own, as a store, shop, professional office, or room in a dwelling; and requires no more personal service than he alone can render if he devotes his own time. Such an office imposes no charge for rent, fuel, or light, beyond a moderate addition to the expense he would otherwise sustain upon his individual account; and for clerical service nothing but what he chooses to provide in substitution for his own; and he is supplied by the Department, according to his necessities, with blanks, wrapping paper, twine, facing-slips, canceling-stamps, canceling-ink, and an account book. For all the expenses he sustains, as well as for his service, he is sufficiently compensated by the large commissions granted by the statute; and he frequently derives incidental gain by the attraction of people to his place of private business on their post-office errands. Such a class might well embrace not only those postmasters now in the fourth class, but the lower grades of those at present in the third class, drawing the line, perhaps, at a business which produces gross receipts of \$3,000 per year. The limit of such a class is properly determined when the business becomes so great as to rightfully demand a post-office devoted entirely to postal affairs, independently of the interruptions of any private business in the same apartment. Whenever one of this class is designated by the Department as a separating office, special provision for the necessary additional clerical force should be allowed. Otherwise his commissions should allow, and probably now do, all which is justly demandable by the nature of the service he renders; and these should not cease at any merely arbitrary limit, but continue, being properly graded upon an upward diminishing scale, until the growing volume of his gross receipts carries the office into the next class above.

Appended to this report is a table (marked Table A) prepared by the Auditor, showing the respective numbers of postmasters now receiving various quarterly sums of compensation from \$10 upward, and also tables of the statistical data of the Presidential offices arranged in the order of their rising salaries, which may aid the practical consideration of this subject. During the past fiscal year the gross receipts for stamps and stamped paper sold, aside from box-rents and money-order business, at all the fourth-class offices, were, in total, \$11,854,748.34; and the postmasters' compensation at the same offices \$8,313,383.21, or 70.13 per cent. of the stamp sales. In addition, these postmasters en-

oyed the entire box-rents, amounting to above \$700,000, as well as fees in money-order business and for special delivery whenever any such service was performed. It can hardly be maintained that the Government should have nothing from their gross receipts to apply upon its expenditures in transporting and handling the mails of these offices; nor, if anything, less than the small proportion now received. Contrast with the salaried offices is sharp. The latter sold during the last year stamps and stamped paper to the amount of \$33,925,161.27, and the postmasters' compensation was \$3,625,598.86, taking but 10.68 per cent. Tables furnished by the Auditor are appended to further exhibit these details.

To establish such a class, some rearrangement of the graduated compensation is necessary, but the product of it, relatively to the officer and the Government, should perhaps be little modified. Two points of special attention are suggested by experience and sound reason. The one is, that box-rents should be taken up as part of the revenue of the Government, and brought under the control of Department regulations, in substitution for the present system which makes this feature practically the personal business of the postmaster. The gain would be in uniformity of dealing with the public, in disengaging private interests from the public business, and in the consequent more orderly and systematic conduct of it; while the proper adjustment of the commissions may secure as satisfactory compensation to the postmaster as he now enjoys. The other point of desirable improvement is the application of the commission scale by allowance of specific sums of compensation out of specific sums of the cancellations and collections on which the commission is graduated, instead of various percentages to be separately computed in each case; the gain of which change would lie in the avoidance of errors of computation, and the relief to the Auditor's office from the work of such computations, the extent of which may be estimated from the necessity now recognized in practice, to insure accuracy, of a threefold examination of each of more than 53,000 accounts in each quarter year.

The division of post-offices into the two general classes—by distinguishing those the importance and magnitude of whose business is such as to require independent and separate maintenance from those which can properly be carried on in connection with a private business—implies that the former be regarded and treated entirely as Government offices in every particular of their affairs. This consequence is demanded by the soundest principles of public business, and its recognition appears to promise far more satisfactory and efficient service. The office should then become the care of the Department, be provided and equipped, supplied and maintained at its cost, and the postmaster paid by a salary measured by the nature of the responsibilities and duties imposed upon him. His time and labor, reasonably exacted, belong then to the Government, to be applied not only to proper supervision but to such other duties of his office as their use may enable the

proper discharge of by him personally; and for the excess of necessary service required the proper provision of clerks devolves upon the Department.

The consideration of the principles and the arrangement of a system adapted to the suitable provision of quarters, equipment, and clerical force, and to govern the organization and administration of such offices, become then an independent subject of departmental care, not involved with the adjustment of the postmaster's compensation, nor subject to the detriment almost inevitably resulting from making them a charge upon him. Somewhat farther on I shall venture to propose some suggestions on these points. It is obvious at once that the correct settlement of a scheme for salaries, while perhaps necessarily to be graduated with some reference to the volume of business, depends upon a correct measurement of the character of the responsibilities imposed on, and personal duties to be exacted of, postmasters in the various offices. The lowest salary ought not, as now, to be fixed at the maximum allowed the highest grade of the commission-paid postmasters, but at a sufficiently lesser figure to recognize adequately that commissions are designed to cover the expenses of the office as well as the postmaster's compensation. Thus, in such a division, the largest commissions might yield a yearly aggregate of nearly \$1,400 on a business approximating \$3,000. But after his office enters the salaried class, and the expense of it becomes a departmental charge, the postmaster who collects gross receipts from \$3,000 to \$4,000 will perhaps be sufficiently remunerated by a clear salary of \$1,000, and the graduation rise thenceforward in proper proportions.

The value of a subdivision of the salaried class can not be great, nor are specially useful results promised to it. There is, however, a line which naturally separates these into two classes. In the large offices of the service, perhaps such as receive \$30,000 or more, the duties of supervision and general management may be properly regarded sufficient to require the postmaster's attention to such an extent as to leave little or no opportunity to share in its detailed work; while in those which rise from the lowest salaried limit to this point he ought to participate in the labors of the office more or less, accordingly as its requirements of a supervisory nature vary from the least to the most absorbing degree.

The adoption of these lines of demarkation ranges all the offices into three natural classes. To draw them is in some degree an arbitrary work, and their location as above suggested may not be the most correct application of the natural principles for the division which have been indicated. It may be esteemed desirable to require offices to be independently maintained at which less business is transacted than will yield gross receipts of \$3,000 per year. But as that line can be subsequently lowered, and every such change is experimental and requires experience to correctly adjust the true boundaries, it would appear

proper at this time to carry the salaried class to no lower limits. Upon the plan above proposed, the offices of the first or upper class will number 118, of the second or middle class, 1,471, and of the third or commission-paid class, 53,845, according to the returns upon which the latest annual review proceeded and the entire number on the 1st of October. Assuming this arrangement, some further suggestions in regard to the provision of offices and clerical assistance may be properly added.

Buildings for Post-Offices.—As the law now stands the entire number of post-offices for which, if not in Government buildings, the Department may rent quarters is 517; all of the first and second classes. In the appropriation act of March 3, 1885, authority was given in the expenditure of *the appropriation then made* to lease premises for offices of the third class, also, for a term not exceeding five years; but the appropriation was not enlarged beyond the estimates for first and second class offices, and the authority could not be exerted with propriety except where leases at a nominal rent were offered, and but three or four such were made.

Of the whole number of offices chargeable to the Government, 86 were, on the 31st of October last, in Government buildings, the heating and lighting of which the Secretary of the Treasury provides for out of the general appropriation for the expenses of the public buildings; 303 were under lease for different terms at a gross annual rental of \$285,729.50; besides 50 stations at the rental of \$62,621; and to the remainder, money allowances for rent, incurred and to be paid by the postmaster, to the amount in gross for the year of \$92,643, have been ordered. Appended hereto is a tabular exhibit prepared by the law clerk, of the post-office leases in force at the end of the fiscal year; and also an amendatory exhibit showing all the changes up to the 1st day of October. On that day the annual rate of cost for the rentable offices and stations stood at \$501,331.50; of which \$440,993.50 was for rent, and \$60,338 for heating and lighting, not included in rentals; besides 31 offices recently elevated to the second class, the cost of provision for which had not been definitely adjusted.

Should the plan discussed for the reclassification of post-offices meet approval (or should third-class offices of the grade of \$1,400 salary and upwards be included in the list for renting), it would add 1,072 offices to the charge of the Department, making altogether 1,589 as they are at present graded; a number to increase gradually from year to year, if peace and prosperity continue with us. There are now 104 Government buildings containing post-offices, and the Supervising Architect of the Treasury advises me that 44 Government buildings, which will furnish post-office quarters, are in process of erection, and that special appropriations have been made for 32 more whose construction is not yet begun. Of the 104 in present use, 3, all in the State of Maine, are fourth-class offices; 2, 1 in Maine and 1 in Massachusetts, are of

the lowest of the third class, and 1 holds the Georgetown office, near a station of the Washington post-office. This leaves 98, of which 6 are in the first and second classes, and 12 in the third, out of the number of 1,589 proposed for renting, already so provided for; besides 76 which soon will be also in buildings owned by the Government. The number remaining for further provision, on the plan suggested, will therefore be 1,415.

The average rental of the 303 offices now leased is \$943.00; and of the remainder provided by allowances, \$604.41; and of the total of both sorts, as now provided for, is \$857.74; and doubtless suitable premium can be secured for the additional ones proposed, because of their small requirements and location in small places, at an average annual rental not exceeding \$400 each, or a total additional cost of \$435,800 per year for rent. Add for heating and lighting the estimated sum of \$50,000 and the annual charge for quarters for post-offices will become approximately \$1,000,000, and increase from year to year at the rate of 3 to 5 per centum.

This subject may be further temporized with, and the limits withheld from the immediate expansion proposed. It can not be done without injustice to the cities and towns so deprived of the privileges and finished service to which they are as fairly entitled as others, and to the postmasters, who are compelled to pay out of their salaries rent of buildings solely for the use of the United States.

No long delay can at best be gained, and the course of wisdom is to look at once to the fact that already the charge of nearly 1,600 offices fairly belongs to the Government, and within not many years the number must be 2,000. The question therefore rises, what is, what ought to be, the policy of the Government in dealing with this feature of its postal service? not how best to avoid, by temporary expedients or inaction, the exigency of the public interest, but in sound forecast and prudence unshaken by timidity how best to provide, with human permanence, for the great service for the generations that ought to be bettered by our wise action.

Provisionally, it can hardly be questioned, the Department should be authorized to pursue its present course of leasing, or making allowances, as may, in the particular case, be most expedient and economical, and adequate appropriation be made. Authority to make a lease for five or more years, at least, subject to termination when a Government building is provided, or whenever, in the judgment of Congress or the Department, the public interests so require, appears to be a proper accompaniment, and is again recommended.

But such a course is, necessarily, and ought to be regarded merely provisional. It presses upon the mind that a broader and more comprehensive policy should be settled. The enduring permanency of the postal service is so potential a factor in determining the just requirements of the public interest as to compel assent to the proposition—

strongly re-enforced by many other reasons—that, whenever an independent office is fairly required, it should be the property of the Government, upon land ceded to its jurisdiction by the State, and subject to its proper regulations for the best administration of the service.

This proposition has already received such repeated legislative recognition in numerous enactments for the construction of public buildings, that it may be regarded as a settled principle, in general; the reservation being that its particular application shall be made by special acts of Congress. Yet, whatever the theoretical value of that reservation, it can hardly be gainsaid that, in practice, public buildings have been often unnecessarily expensive; and, in many instances, the expenditure has been extravagant and needless, by no means even productive of the best results. They have proven especially unsatisfactory in their accommodations for the postal service.

In the buildings hitherto constructed the wants of the post-office have been generally subordinated, in the original design and in the completed structure, to the architectural show of the exterior and the claims of other kinds of Government occupation, which, though often of much less relative value and usefulness to the public, were given an exaggerated importance to furnish reasons for obtaining the appropriations originally, and so secured a disproportionate share of the subsequent use. Thus, many post-offices in expensive buildings are poorly lighted, badly arranged, and illy adapted to the proper requirements of the service.

In some cases the growing needs of other departments have pressed upon and narrowed the provision originally made for the postal service, whose own necessities have meantime also continually increased, until many Government buildings furnish at this time entirely inadequate and unsuitable quarters for the work of the post-offices; notwithstanding, often, the portion designed for such uses occasioned an expenditure in original construction much beyond what would now provide independently a satisfactory establishment. This fact is occasionally brought prominently to notice by the demands upon Congress for appropriations to alter, sometimes to rebuild, existing structures—alterations difficult to adjust to inexorable present conditions. So it chances that in many such buildings the clerks of the post-offices are found in basements, in lofts, or huddled in some portion of an apartment so darkened by indispensable furniture necessarily crowded in arrangement that the labors of the day must be performed under artificial light—a condition not only unfair and harmful to public servants by no means overpaid, but seriously obnoxious to the proper performance of duties, which, because of the rapidity, accuracy, and infinite details involved require the most favorable provision of light.

As a rule, the Government buildings furnish apartments less than satisfactory for post-offices; and many much superior are to be found in buildings rented by the Department and equipped, sometimes built, by owners under the care of its inspectors. Upon this subject, I wish

to urge a reading of the facts presented by the commission for the examination of post-office organization in their report hereto appended but which is more particularly mentioned in discussing the next following topic.

The conviction has become strong in my mind, from the observation and experience enjoyed in this place, that the Government should build its post-offices separately and solely for postal uses; that they should be constructed wholly by this Department, and with requisite precautions of law to secure economy, suitability, and harmony of design; that they should be built in every city or town where the magnitude of the service warrants an independent office, although from time to time only, perhaps, as the surplus revenues of the service will warrant.

The Department should be provided with an architect and practical builder, to be chief of the division of construction, some of whose clerks should be skilled draughtsmen, and two or three competent inspectors be assigned to his aid. A moderate addition to the roster of the Department will be amply sufficient if uniformity of design be required and followed. With the aid of the Supervising Architect of the Treasury, or otherwise, and subject to proper approval, a design for a post-office should be so devised that, with modification in size only, similar buildings may be built in different cities without limit of number, and all so designed and built that, while in its first construction the fairly prospective as well as immediate needs of each office shall be entirely met, great if not indefinite enlargement will be possible without impairment of the general plan or the utility of the portion first constructed, when further development or growth shall necessitate such action. To this end, as well as for proper security against fire, an ample space of ground—the relative dimensions of which might be prescribed by law—should be secured in the beginning, and jurisdiction as well as title properly ceded to the United States.

Uniformity of design and plan in the exterior, and generally of the interior also, but with adaptable variations of the interior arrangement—to only a small extent necessary—appears so highly desirable that it should be established by law. It is a measure of equal justice to the different localities; it will afford to the eye everywhere instant advertisement of the character and objects of the structure as the national post-office; it will insure the most serviceable office as well as tend to uniformity of administrative service (upon which point I urge careful attention to the next topic discussed, the provision of clerks); and, especially, it becomes a guaranty against extravagance in construction, the limits of cost being necessarily fixed thereby to a great degree, capable, even, of definition by statute.

Obviously the first objection to be fairly met and perfectly guarded is the risk of unnecessary and lavish expenditure; and the sure economy of such a course of extensive construction demands to be demonstrated and its satisfactory safeguards discerned and provided. Yet it will be

remarked that the Congress necessarily loses no control over the subject, and can apply any checks from time to time not foreseen to be requisite but discovered to be by trial; and the official responsibility of the officers of the Department, with the limitations fixed by appropriation and by public criticism, affords trustworthy grounds for confidence in the experiment. Indeed it may be truly said, notwithstanding instances of speculation and criminal misconduct inseparable from human trusts, that the record of the vast expenditures and performances of the Post-Office Department, during its history, displays such fidelity in the use of public money and the accomplishment of results so satisfactorily answerable to its proportionable outlays, that no agency of the Government promises to better justify the proper deposit of extensive authority to attempt a great undertaking for the public benefit and the improvement of its service.

A careful consideration of the probable cost of such buildings will, it is believed, satisfy the inquirer that in a considerable number of the cities and towns where they would be constructed, less than \$10,000 will be amply sufficient to build a fire-proof edifice in every way adequate to the proper wants of the locality, the ground not included, and provide apartments vastly better than anything hitherto enjoyed or hoped for, but not beyond their deserts or the demand of enlightened public judgment; and that, taking together the places which have not yet been, but ought to be, provided with a Government post office, \$10,000, or at most \$12,000, will supply the average necessary expense of such a structure for all the offices now of the third class which have been suggested as deserving governmental provision, and \$20,000 the average of the remaining offices of the second-class not now in Government buildings. Indeed, whatever the satisfaction which is gained by lavish expenditure from the national Treasury for the ornamentation of favored places, a glance at the list of cities and towns which would be in this manner served induces belief that the useful and suitable public post-office suggested, with its additional postal conveniences, will be everywhere heartily welcomed.

It may be perhaps anticipated that in many cases the locality will provide the ground, with a view to secure an earlier construction, nor, so great and so peculiar to the community will be the value of the improved service, should it perhaps be esteemed unfair that so moderate a share of the cost should be thus sustained. But, reckoning that cost, it may safely be assumed that, upon the whole, an average of \$20,000 will provide the land and structures at all proper places remaining. Fifty offices for each million of expenditure ought so to be realized to the country, a sum which the postal service will soon annually provide its revenue be judiciously conserved; and the public treasure has never been better used.

I refrain from an extended argument of the merits of the suggested course, most of which will arise to the reflecting mind. The vast gain

to the postal service from well-ordered post-offices is so established by a long experience that, by them familiar with its operations, the assertion will be at once accepted that the increase of business so occasioned must of itself soon recompense the cost in nearly every locality. If the view be much more narrowed the economy of the plan is approved. So long as the Department rents of private owners, the average rate of rental, which must include the local taxation, will but rarely be less, and never average less than 7 per cent. upon the cost or value of the property obtained, and not infrequently at least 10 per cent. is exacted. Yet the Government borrows easily at 3 per cent. on call, and its time obligations sell in the market at prices which yield but 2.30 to 2.40 per cent. annually. Fifty offices, rented at the present average of \$857.74 per year, impose a total of \$42,887 upon the annual appropriation for this object, while the interest charge upon the million limit of cost will be at most but \$30,000. The appropriation of surplus revenue to this purpose, if no more be provided, will in the course of some years obliterate the item of rent from the debit side of the Department's ledger, and prove remunerative in the merest pecuniary sense; altogether the most insignificant advantage reasonably to be hoped for.

In every city which has witnessed the repetition of controversies over the location of the post-office, as leases have from time to time expired, and the migration of business from one point to another following its changes of situation, with the attending loss in real estate values and disturbance of local affairs, not to speak of the engendered bitterness, the assurance of stability and permanency of influence on business establishments to result from the fixation of the post-office by Government ownership, will be welcomed as not the smallest boon conferred.

If reasons be sought against the course of action proposed, it seems difficult to find any sufficient to oppose it. The aggregate cost of all such structures, economically built, is a sum too insignificant, although a large one, to be set off against the resulting benefits to a people financially so circumstanced as ours. And, as already indicated, if the entire sum were immediately borrowed and its repayment charged upon the postal revenues, it would prove an economical measure, because the interest-charge would be less than the rents to be paid for the same buildings, and the saving of rent would in time sink the principal of the debt.

Clerks in Post-Offices.—"For compensation to clerks in post-offices, \$5,450,000," reads the latest act of appropriation, pursuing with only a difference in amount the language of those which have preceded it. And, except that the general statutes authorize allowances to postmasters for its expenditure at offices of the first and second classes only, and at distributing or separating offices "for the necessary cost of clerical services arising from such duties;" and that an old statute, in part, at least, repealed, directs that "whenever unusual business accrues at any post office, the Postmaster-General shall make a special

order allowing reasonable compensation for clerical service and a proportionate increase of salary to the postmaster during the time of such extraordinary business;" there is substantially the end of the law on the subject. The statute does, indeed, limit the total allowances to the first and second class offices "for the necessary cost of rent, fuel, lights furniture, stationery, printing, *clerks*, and necessary incidentals" to "the surplus revenues of their respective offices—that is to say, the excess of box-rents and commissions over and above the salary assigned to the office;" but the statute which fixed such commissions has been repealed.

There is also a special limitation respecting money-order service not necessary to repeat. So far as the postal service is concerned, this large and increasing item of expenditure (besides others for rent, light, fuel, furniture, stationery, and necessary incidentals) is turned over to the Department to be disbursed nominally at the will of the head of it, practically by the clerks in the division of salaries and allowances, under correction of its chief and the First Assistant. This is in striking contrast with the nice limitations fixed in the annual act for the service of the Department itself, appropriating but about \$800,000 to be expended immediately under the eye of the officers charged with its government, in which the particular amount applicable to each of the various classes of clerks in each office, and for each item of supplies is carefully assigned. A greater sum is appropriated by the Department for a single post-office.

I have been unable to find that there has ever been a regulation or order fixing system or principles upon which this vast sum of money is to be annually scattered. The First Assistant directs the entry of the necessary orders, prepared in the division and brought up by its chief, after such examination as he finds it possible to give in the mass of duties crowding upon him. The chief of the division makes his best effort to guess the proper sum for each importunate postmaster to expend; and the postmaster adjusts, subject to the same approval, the salaries of his force in accordance with his judgment of their merits. He files his roster of clerks and wages; and the Department, with good success upon the whole, sees to it that he spends for the prescribed objects the amounts allowed. Inspectors are directed to examine the office in particular cases, and they assist by their opinions, formed on the ground, the ultimate discretion of the division chief and First Assistant. Such seems to have been from the beginning the only "system" known to the Department. In his report for the year 1882 Postmaster-General Howe directed attention to this subject, and said of the prevailing usages:

These large sums are distributed among the different post-offices entitled thereto by a series of orders, allotting so much to one and so much to another. In theory these orders are made by the First Assistant Postmaster-General; in practice they are made by a fourth-class clerk in the office of the First Assistant. No matter by whom made, this distribution will not be well made. Finite intelligence could not

make a wise and just allotment of such a fund; infinite intelligence cannot be obtained for fourth-class clerks.

Postmasters are eager for large allowances. The most importunate are apt to be best served. They ask earliest and oftenest. They employ every kind of entreaty, and offer every sort of influence, personal and political. The clerk must act upon such a case as the postmaster presents. He has no means of rebutting it. It is not surprising, therefore, that the recent investigation by the First Assistant Postmaster-General resulted in a reduction at eight offices, amounting in the aggregate to \$54,530. It is not to be doubted that a broader inquiry would result in still larger reductions.

Such a method of providing for the post-offices may have been adapted to the early days of the service; but, with gradual expansion, its errors, misjudgments, and inequalities must have been constantly accumulating; and it is a high mark of the integrity and fidelity of those who have had charge of the distribution that no other reproach can be aimed at the history of their office; and that reproach is not theirs; theirs is the credit that in such circumstances of embarrassment and difficulty it is no worse.

But the condition presented is sufficiently repulsive to any sense of administrative order or justice. To bring it as fully as possible to your consideration, and enable its free submission to the Congress, there are appended to this report tables showing the circumstances of all the first, second, and third class offices, their receipts and allowances of divers kinds, ranged in the grades of their salaries. The differences between them, in the proportion of allowances to receipts, are startling in every grade; and a more minute inquiry will not furnish thoroughly satisfactory reasons for them, although they will explain and excuse their existence in great degree.

Among the large offices of the first class there is not only a similar disparity in the proportionate expenses of their maintenance, but little uniformity of organization, of principal officers, of gradation in clerks, in their assignment of duty, or compensation. These will be better understood and their effect conceived by a thorough examination of the accompanying exhibits. As a mere illustration notice is called to the appended table (marked Table O) showing the variety of principal officers and in the salaries paid to them at the first-class offices. A difference among these officers might reasonably be anticipated and approved. The existing differences will appear to a great degree capricious, and are excusable only because the assignment of duties is exceedingly various and not accurately indicated by the names employed to designate the officers.

In the first-class offices total allowances vary from 8.5 per cent. to 24 per cent., exclusive of rent, light, and fuel, and at Washington 48 per cent., of gross receipts; and in each of the different grades of second-class offices similar or greater disproportionate allowances are shown. Holyoke, Mass., and Houston, Tex., stand side by side in the table, with a difference in gross receipts of \$32 in favor of the former and of \$6,203 of allowances in favor of the latter, which receives three times the sum

for clerical service that the former requires, the percentage of gross receipts so consumed being 9.4 per cent. in one and 28.2 in the other.

These tables proffer numerous instances of similar discrepancies readily observable. Examination of the disbursements will show wide disproportion in the salaries paid to clerks, and in the numbers employed. In many instances, they indicate the studious performance of office duty by postmasters themselves; in others, this studious performance *per alios* as plainly preferable to *per se*. The differences are often not the result of the characteristics of the present officers alone. They have accumulated through years, are the fruit of the importunity spoken of by Postmaster-General Howe; and being once established, it is difficult to change the methods and salaries.

Much of the want of uniformity in the clerical organization and allowances of the larger post-offices is due to differences in the quarters they occupy. The commodious, well-lighted, and well-arranged offices both require less force and admit of its more natural adaptation in arrangement to the most convenient performance of their functions. Where apartments are separated, some in basements, others in upper stories, ill-lighted or crowded with their necessary furniture, clerical arrangements must be adjusted accordingly, and invariably at greater cost. A perusal of the appended report of the commission to inquire into post-office organization, mentioned below, will be found instructive on this point; and it will be observed how strongly this consideration reinforces the expediency of providing uniform post-office buildings.

It is, or it seems to me, apparent upon the face of these facts, that a comprehensive, well-ordered system ought to be devised for the government of this feature of the service. The objects of it suggest themselves; the means of securing them present the laborious and troublesome problem. But however vexatious the inquiry, it should no longer be delayed. Necessarily, the details of such a distribution, involving the ascertainment of the particular facts of each case and the application of the principles or rules of measuring their requirement, must be committed to the clerks of the division. But this may be accomplished by such regulations and instructions as to leave the result dependent on discretion to the least degree. And it is not impossible to provide such a system, although the great number of offices, the differences in the character and extent of their work, and local conditions, render the task a delicate and painstaking one.

The first aim should seemingly be to settle the rules by which to determine in what offices and to what extent clerical service, in addition to the postmaster's personal service, ought to be furnished by the Department. This is properly dependent on the nature and magnitude of the work required at the office. It does not depend on the gross receipts, nor is it to be gauged by them. The tables show this clearly. And the work in post-offices divides into many different kinds, each of which requires an especial consideration. The desideratum is, a fixed scale for

measurement—not in money, but in clerical power or capacity—of the several kinds of work, in order to make the adequate provision for each branch of duty, and in total. This appears attainable by a study of each species of labor sufficiently to determine how much of it a person of average competency should perform in a given time; the perception of the proper unit of measure in each grade of duty.

Given the rules, the particular facts to which they are to be applied must then be reliably found. This suggests the second aim of such an inquiry: the discovery or invention of the methods by which the postmaster may trustworthily take the census of his various duties and make faithful reports thereof in such form that the true estimation of the clerical service due his circumstances arises from the application of the rules.

The third point indicated is, that the entire body of post-office clerks requires to be intelligently graded into classes and divisions, adapted to the work in post-offices, the pay of each grade and rank predetermined; and assignment of the force found necessary for the work—according to the prescribed rules—should be of clerks of the requisite grades, chargeable to the Department, instead of being in money to the postmaster to employ service.

The last prominent desideratum necessary now to be mentioned is, the uniform organization of the large offices employing many men into the most useful form, and the proper adjustment of salaries.

I content myself here with the briefest indication of these features of a desirable system, the value of which is, I think, obvious, and the supporting reasons will follow on reflection. The advantage of a uniform system in such a wide-spread service needs no argument. It is the only trustworthy means of equal justice and efficient business. The exigency for it multiplies now with every year. That the lack of it has caused no greater evils than already exist is matter of congratulation. It is true, full legal power over this entire subject has been vested in the Department for many years; but, for many reasons involving no personal criticism, the exhaustive and radical treatment of it, indispensable to the situation, has not been applied. One reason only needs be mentioned. No sufficient provision of means has been afforded to pursue, singly and thoroughly, the necessary course of investigation, followed by competent study. The ordinary force at command of this office has been too heavily laden with exacting duties to spare all the time demanded, and the limited compensation within the power of the Department to offer debars employment of men best suited to such a task.

It appears once to have engaged a brief consideration by the Congress. In the act of July 12, 1876, the Postmaster-General was directed "to cause a careful inquiry to be made into the rates of compensation now paid to clerks in post-offices, with a view to a more equitable adjustment and reduction thereof; and if such a rearrangement is prac-

licable, to put the same in force from and after July 1, 1876: *Provided*, That such adjustment shall in no case involve an increase over and above the present aggregate compensation as provided in this act." In the report of 1877 Postmaster-General Key said that, in obedience to the act, such investigations were made as the force and means at command would permit, "but so far without discovering how such reductions may be made without impairing the efficiency of the service." The expenditures under this item were, in fact, reduced between 1876 and 1877 nearly \$250,000, according to the showing of the Auditor. But it does not appear that any attempt at systemization or uniform organization was made, nor possible with the means at hand; and the drift toward chaos has since continued.

With a view to attempt better methods, if possible, three officers of the service, Inspectors Ryon and Metcalf and Mr. Alexander, superintendent of mails at Philadelphia, were directed in May last to enter upon and diligently prosecute an inquiry. Before it was finished, Mr. Metcalf retired from the service, but submitted his views so far as then fixed in a separate report. Inspector Harrison took his place on the commission. Recently the completed report of the commission has been submitted. No time has been afforded me since to satisfactorily pursue the study of the subject with the aid of these reports. Their hurried examination indicates that much has been accomplished which will tend to facilitate the final settlement, but that very much remains to be done, both of inquiry and digestion. These reports will materially assist understanding of this subject, and I append them hereto, with the papers returned by the commission, prefixed by a copy of the order directing the inquiry.

So far, however, the examination has been limited to offices of the upper classes. It should comprehend all at which any clerical service is necessary, especially if the third-class offices are to be added to the list for general provision. It will properly embrace the question of compensation of postmasters and the line of division between the classes.

If the inquiries, apparently well begun, can be pushed to a thorough and comprehensive perception of the principles of order which must underlie this branch of the service, the head of this Department may establish them by regulations in a just and adaptable plan for organization and adequate provision of clerical service; by which is meant in the law all necessary officers and men below the postmaster. Without such aid as will enable the attainment of that clearness of understanding which makes action easy and firm, it would be unjustifiable to risk any such radical general attempt at amendment as alone can reach the extent of the evil; the continuance of patchworking, at whatever cost, being at least sufficient to keep the service in clothes, however ill shapen and disfigured.

The present duty is to bring the existing condition of this business faithfully and openly to your attention, to be submitted to Congress.

It appears to require either that a legislative solution shall be given, or that adequate means be placed at the command of the Department to pursue by the most competent assistance such further investigation as shall enable and authorize the adoption of suitable regulations to bring about a complete and useful reformation. It needs hardly to be added that in view of the vast annual outlay and the magnitude of interest involved, no probable expense so incurred would fail to be ten times restored in a single quarter if the object be fairly attained.

The appropriation for clerk-hire in post-offices for the last year was very insufficient in amount. This happened because the estimates on which it was based were prepared only for clerks in the postal service, and the act of June 29, 1886, approved only a day before the appropriation act, amended the law (as recommended in the annual report of 1885) to require that clerks in money-order service, theretofore paid out of the proceeds of money-order business, should no longer be so distinguished, but be also paid from this appropriation. This cast upon the sum provided the unexpected burden of all the money-order clerical service, then amounting to nearly \$305,000. The large increase in postal business also pressed for unexpected additional clerical service in post-offices; and notwithstanding the economical gain of consolidating the postal and money-order clerical service, the expectation of which had caused the recommendation and passage of the act, the appropriation failed to meet the combined demands, and the absolute necessities of the condition compelled the Department to authorize the expenditure by postmasters of the further sum of \$235,812.74, for which a deficiency appropriation must be solicited.

This item of appropriation is one of those in which the purpose of Congress is more particularly manifested than in some others, and can be justifiably exceeded in expenditure only when peculiar circumstances—such as have been mentioned—warrant the conclusion that the omission of necessary provision was not designed, but casual; and the obligation to limit the excessive expenditure to the absolute necessities so arising has been fully acknowledged. The duty not farther to overstep it prevented the Department from fully meeting all the demands for increased allowances which might have been properly granted if the appropriation had been sufficient, and caused complaint by some who mistakenly supposed the subject one of purely departmental provision, or who did not recognize the obligation to conform action strictly to the will of Congress. The appropriation for the current year enables partial, though not great, relief. The estimate submitted for the next year proposes an addition of \$200,000; a sum which will be indispensable to obtain satisfactory service, unless by that time the allowances can be placed upon a just and proportionably uniform basis; which can not, I think, but operate a considerable saving in their total with much improvement to this class of service in general.

The three topics above discussed, the proper classification and compensation of postmasters, the organization and clerical service of post-offices, and suitable buildings for their occupancy, concern deeply the immediate convenience of this service to the people. Satisfactory solution of the questions which arise in respect to them will prove an advantage not easily to be overestimated. The appropriate remedies for the existing conditions deserve early and painstaking attention. Various opinions may be anticipated, and other plans to attain the objects. It is, however, ardently to be hoped that a contrariety of opinion may not longer hinder and delay desirable improvement, but stimulate a discussion which shall evolve a practicable conclusion. The presentation of the foregoing suggestions has been in acknowledgment of the obligation upon one who points out existing evils, to propose, at least, some betterment. That greater improvement may be otherwise secured, will furnish, when the fact is shown, a stronger argument for an early course of provident relief.

The Free-Delivery Service was, during the last fiscal year, extended to eight additional cities which had reached the limits then required by law of \$20,000 gross receipts or 20,000 population, and were thus within the discretionary consideration of the Department. These were Birmingham in Alabama, Wichita in Kansas, Battle Creek in Michigan, Winona in Minnesota, Joliet and Rock Island in Illinois, Bradford in Pennsylvania, and Rutland in Vermont. Their addition left the total number of places within the privileges of this system to be 189 at the end of the year.

The increase in the performances and requirements of this service was in greater proportion than of added towns. The report of the First Assistant Postmaster-General presents interesting statistics of the growth of the year, of which the following are specially noteworthy. There was increase in the whole number of pieces of mail matter handled by carriers of 14.16 per cent., or 285,044,057 pieces, the aggregate reaching 2,234,564,656, the gain being in every class of mail matter, and in the following percentages, respectively: in deliveries of mail letters, 13.13; of mail postal cards, 11.43; of registered letters, 8.78; of newspapers, 14.06; of local letters, 20.19; and local postal cards, 15.11; in collection of letters, 16.15; of postal cards, 13.32, and of newspapers, 11.15. The enhanced local use of carriers will be observed with interest, and its effect noted in the increase of postage receipts on local matter by \$852,010.72, or 14.59 per cent., bringing the gross to \$6,691,253.69.

Necessarily, such rising demands caused the addition of many new carriers, 469; by which the total number at the year's end became 5,310. This was but economical provision, 9.66 per cent. of increase for the added work, shown in the fact that the average number of pieces handled per carrier rose, notwithstanding the increase of carriers, from 402,710 to 420,822, or 18,112, a percentage of 4.31; more than for years previously; and in the large increase in the excess of postages on local

matter over the total cost of this service, amounting to \$545,625.35, or 35.73 per cent., never before equaled since the system was on foot. The number of cities in which the postages on local matter exceeded the cost of the free-delivery service therein increased from 19 to 30. We find significance in these figures corroboratory of the opinion already expressed in another connection, that all reasonable improvements in the local affairs and facilities of post-offices will produce more gain of revenue than their cost.

The average cost per carrier fell still below that of last year, from \$889.15 to \$867.67, or \$21.48 to each, 2.41 per cent. This was due to the larger proportion of offices in towns which have but two grades of carriers, and to the considerable number of carriers in the lowest grade by new appointments. In all particulars of cost there has been continuing improvement, as will appear by the diminishing ratio of rising expenditures shown in the following statement:

Year ending June 30—	Total cost free-delivery system.	Actual increase over previous year.	Per cent. of such increase.
1881	\$3 504, 206.52		
1885	3, 985, 952.55	\$481, 746.03	12.1
1886	4, 312, 306.70	326, 354.15	8.3
1887	4, 618, 092.07	306, 385.37	6.9

The appropriation for the last year was \$4,928,531.25, and the balance unexpended thereof is \$309,839.18. The record of the year is a testimony to the faithful and well-directed efforts of the superintendent of the service to steadily augment its usefulness to the public, while by judicious economy its great and growing cost is checked to a slower pace; in conformity to the sound policy that stints nothing in the perfection of postal facilities and expends nothing of the public money needlessly.

The act of January 3, 1887, gave effect to the recommendations urged in the former reports submitted to you, and authorized discretionary extension of carrier deliveries to cities having a population of 10,000 or collecting \$10,000 of gross postal revenue. It was hoped that these privileges might have been at once enjoyed by as many as fifty to seventy-five cities, whose applications had anticipated appropriation, and which the investigation of inspectors had found suited to the service in local conditions. But the failure of the usual deficiency bill to become a law left the Department without rightful authority to make the expenditure until the beginning of the current year; in the mean time, however, pursuing the examination of applications with a view to the earliest accommodation of applicants.

The eagerness with which the advantages of the carrier delivery of mails are now sought is in marked contrast to the reluctance of many towns to admit the system on its introduction in 1863. Then the De-

partment was obliged to enforce its acceptance in many cases; in the first two years the number of cities so at first served decreased by twenty; in seven years afterwards but six were added; and it was not until the year 1880 that the list embraced one hundred. But the recent act was no sooner approved than applications for the service, besides those filed in anticipation of the act, pressed rapidly on the attention of the Department, and during the past spring and summer the inspectors assigned to this work have diligently pursued it, while the office has spared no pains to meet the public expectation.

By the 1st of October, in the exercise of the discretion conferred, 140 additional cities have been brought within the system, in all but one of which (delayed by local complications) it is now in operation, and apparently with all the favor indicated by the general desire for it. The limit of expenditure for extension fixed by the estimates for the current year will soon be reached, at which point it will be necessary to suspend establishments until authority therefor shall be renewed by Congress.

There should be no hesitation in providing every city and town in the United States with this service, whose business interests and local conditions are such as to make it of an advantage compensatory to its cost. There can justly be no shorter limitation. One such community of our people is equally entitled with another; and all such are entitled by the best claim, American citizenship upon American enterprise, to the highest conveniences of the best postal system. No limitation is to be justly found in the relation of local postage to the cost of this service. The aggregate of such postage exceeded the entire cost of carrier-delivery in the past year by \$2,072,561.62, and each year the excess will be more. But 30 cities out of the 329 now in possession realized this result independently, so that the claim of such as do not enjoy it is equal to that of the other 299 which are assisted to maintain it. The liberal policy approved by Congress is fully warranted by the finances of the postal service and will doubtless be generously pursued hereafter.

In this view, the immediate anticipations of the future under the present law are readily to be seen by the following summary:

Applications are now nearly ready for final order to the number of.....	36
Cases now under inspection	3
<hr/>	
The probable number of further establishments during the current year is thus limited to.....	39
Other cases reported but postponed for the present for various reasons are	13
Places apparently within discretionary limits which have not yet applied.....	42
Additional places which indicate a probably sufficient revenue by the end of this fiscal year	35
<hr/>	
Probable total of possible establishments before the end of the next fiscal year.....	129

The fully established equipment and maintenance of all which with carriers of the higher grade may not be expected to cost annually over \$475,000 per year.

To these may be added in the following year the possible number of 40 more offices, regarded as probably to attain by the end of the next fiscal year the requisite revenue.

It was suggested in the last report that it might be expected the limitation then proposed would have permanence. The experience under the recent act has raised the question whether within the just principle of limitation, above mentioned, there may not be cities containing 5,000 or more inhabitants, although with less than \$10,000 gross postal revenue, whose local conditions are such as to warrant carrier delivery. The entire number within this category is but 147, and it is not unlikely that after two or three years, at least, it will be deemed just to consider favorably the claims of some of these.

The proposal has been before urged that in the larger cities a separate class of collection carriers should be provided. It would be a measure of economy and a measure of fairness. At the present some carriers are put exclusively to these duties, and with requisite age in the service gain the same pay as those employed in delivery. The duties of collection require men of less education and less capacity than those of delivery; and the discrimination proposed is in the interest of the universal sense of justice which demands a proportionable adjustment of recompense to merits and performances, and tends to avert the natural discontent of those who, while obviously earning more than others, receive no recognition of the difference in compensation. As a proper measure of economy, also, it deserves consideration; and its adoption promises to be to the interest of the service.

The Money-Order Service continued to increase in volume during the past year, the amount in the aggregate of domestic orders issued reaching \$117,462,660.89, and of international orders \$9,035,530.31; 3.2 per centum of increase over the preceding year in domestic orders, and 25.86 per cent. in foreign. The aggregate of postal-notes issued was 11,768,824.81, an increase of but \$50,814.76. The reduction of the fee from 8 to 5 cents for domestic money-orders not exceeding \$5, pursuant to the recommendation of two years ago, has operated to increase the use of this service to the remitters of small sums in a noticeable degree. The average amount of each order issued last year was but \$12.72 as against an average of \$14.33 in 1886, and larger sums in previous years. This is also indicated by the increase of 16.27 per cent. in the number of orders issued, and by the small increase in the use of postal-notes. In like manner, the reduction of the fee for foreign orders operated an enlarged use of them, amounting to 24.72 per cent. in number.

Complaints of improper payments of money-orders numbered only forty-seven for the year, or one to each 194,459 orders paid. Of these a portion was recovered, others were shown to have been correctly paid, and but a mere trifle, by comparison, resulted in loss to postmasters or the Government.

The total net revenue, after deducting all amounts payable by law from money-order proceeds, was \$719,335.45. This is a sum sufficient to pay the entire expense of all salaries, rent of buildings, and incidental expenses of the Department's and Sixth Auditor's money-order force, and all clerk hire in post-offices on money-order account, lacking but a few thousand dollars, notwithstanding the reduction of fees on both domestic and international business; and the current year will doubtless yield a surplus.

The painstaking and excellent exhibit of all the details of this business by the Superintendent of this system in his report renders a more elaborate account here wholly unnecessary.

During the year money-order conventions were entered into with The Netherlands and with Norway, copies of which are appended; and both went into operation on the 1st of April last. Negotiations are on foot likely to result in the conclusion of similar arrangements with the Kingdom of Denmark, the Empire of Austria-Hungary, and the Republic of Mexico.

The Special-Delivery Service does not appear to have commanded much increase of patronage during the year. Exact reports have not been received from other than free-delivery offices; but by the Auditor's allowances of compensation for deliveries and the sales of stamps, the indication is afforded of about a million and a quarter of special delivery articles. The total number at the carrier-delivery offices was 1,024,567, of which nearly 71 per cent. arrived in the mails, and 29 per cent. were of local origin. This certainly shows that this service is desirable to some, and not unlikely may increase considerably as its uses become better known. Meantime it imposes no cost, but yields a small return, about \$29,000 for the past year. Messengers earned an average of \$10.28 monthly at the free-delivery offices, which only employ them under the act; a sum which will command the services of competent youths. And the service was well performed, the average time between the arrival of the matter at the post-office and its delivery being but twenty-one minutes.

I concur with the Third Assistant in the opinion that the system is beneficial and will probably gain patronage in the future. It is employed by a considerable number, at all events, and is so simple and free from risk or burdens that it should be afforded to them who desire its continuance.

Unquestionably, however, this ought in no manner to qualify purpose and zeal to bring the delivery by carriers of all mail to the highest attainable perfection. There will then remain an abundant field for special delivery, especially at the vast number of offices where no carrier service is maintained.

Post-Office Supplies.—The improved methods of business in the division of post-office supplies have been before brought to your attention, but deserve renewed mention from observance of their re-

sults upon the last year's transactions. In 1886 it was shown that with an actual increase in supplies provided and issued of some 18 or 19 per cent. there was a decrease of cost of nearly 19 per cent. from the preceding year. Equally satisfactory results have followed upon the work of the past year in economy, and some further perfection of the business system has been secured. The increase in the quantity of supplies furnished has necessarily been great, in consequence of the enlarged business of the whole service and the greater number of offices which have come to be furnished under the legislation of recent years. Yet the entire cost of all supplies for the year, in quantity fully 30 per cent. more than in 1885, has been more than \$20,000 less, and the amount of the appropriation, which was reduced below that of 1885, that remains unexpended is \$65,859.23, besides a stock of goods on hand amounting at the close of the year to \$35,120.05.

The volume of business may be judged from some of the principal items of issues: 60,468,900 blanks, 112,403 books, 193,091,700 facing slips, 17,500 marking, rating, and canceling stamps, 778,152 pounds of twine, 21,747 reams of wrapping paper, 13,575 pounds of canceling ink, 506,200 slide labels, and a long list of other articles, shown in the report of the First Assistant Postmaster-General. The number of requisitions supplied was 287,055 as against 162,640 in 1885.

This division now furnishes not only all the stationery and other supplies of the Department and the post-offices of the first and second classes, but twine and facing slips to the Railway Mail Service and post-offices, and also canceling, post-marking, and rating stamps, canceling-ink, pads, blanks, and account books to all post-offices. It is the purchasing agency for the entire service, and experience shows that no other means is comparable with it in economy, while in uniformity and excellence of quality it would be practically impossible otherwise for postmasters generally to procure so good articles for their use.

Some amendment of the statutes is desirable to authorize the most complete employment of its facilities. The postal clerks are not embraced in the terms of the act authorizing all postmasters to be furnished with canceling ink, post-marking, rating, and canceling stamps, and stamping pads. This ought to be done. They are the postmasters of the railway post-offices, and the security resulting from effective stamp cancellation will be increased by their being supplied in like manner.

Machines have within a few years been invented for facing-up, post-marking, and canceling stamps upon letters and postal cards which are effective in their work and, at large offices, can save much time of clerks. Some years ago machines for postal cards were purchased under a special appropriation and have proven valuable. Since then others for letters have been invented, and some of the latter were placed without departmental authority, and without imposing any obligation on the Government, on trial in the post-office at Boston. Experience

shows them to be useful. The prices demanded for them or for their use appear unreasonable. If, however, they could be purchased at a fair price, it would seem to be to the convenience and advantage of the service in post-offices to add them to the list of articles to be supplied. Some enactment directing inquiry and authorizing proper action is desirable, and it is not improbable that reasonable terms can be in the end secured.

The Readjustment of Postmasters' Salaries of the third, fourth, and fifth classes of the act of 1864, for the ten years ending June 30, 1874, as required by the act of 1883, has been pushed with all the force of the Department assignable to this duty. I hoped the entire review would be completed by the end of the last fiscal year, but the work of the division failed to meet this expectation, although it appears to have been pressed industriously. There remained at the date of the last report from the office 6,578 claims on file for consideration. These can be completed with the present force in time for a final appropriation on this account during the coming session of Congress. Nine extra clerkships were dropped from the departmental roster at the end of the year, which had been temporarily established to hasten this work. The total number of claims already reviewed is 54,453, of which 21,573 have been allowed, and the total amount of such allowances is \$1,050,915.66. This indicates that the entire amount necessary to discharge these claims for readjusted salaries will be but little less than \$1,200,000. The sum of \$603,904.49 has already been appropriated by three several acts upon this account and disbursed.

The Inspection of Post-Offices upon the plan discussed in my last report proceeded during last year as far as was possible with the inspective force. The systematic examination was finished of the Presidential and money-order offices, and nearly three thousand other offices of the fourth class were also inspected. The additional appropriation for this purpose available during the current year will enable this inspection to be extended to the greater number of the remaining offices. The results have entirely met the expectation entertained of the value of this thorough work. It has disclosed many desirable changes in the arrangement of mail routes, the valuelessness of many fourth-class offices to any one but the postmasters thereat, enabled a better knowledge of the character and competency of many such officers, has instructed them and their clerks in their duties, and removed errors and faults accumulated through many years.

In the feature of discovering false reports of cancellations by postmasters to increase their compensation, the nature of which practice was fully explained last year, the work has been both remunerative and disciplinary. The number of cases in which orders have been made withholding commissions and fixing compensation because of false reports, since the 10th of October, 1886, the date to which the figures were given in the last annual report, and including November 5, 1887, is 323,

and the amount so withheld from the claimed commissions of the postmasters concerned, over and above the compensation allowed, is \$127,057.77. Forty postmasters have during the same time been arrested because of their offense in willful violation of the statute, of whom 10 have been convicted, 7 discharged, 1 escaped, and 22 await trial. In 18 cases the illegal excess was between \$1,000 and \$2,000 each, in 4 between \$2,000 and \$3,000, in 1 over \$3,400, and in another over \$5,000. In the last named the postmaster committed suicide immediately on detection.

Summarizing all which has been so far accomplished in this matter since the necessity for it was discovered and the task undertaken, from the 1st day of July, 1885, to November 5, 1887, orders have been made in 501 cases, charging back an aggregate of \$205,633.37; 56 postmasters have been arrested, of whom 18 have been convicted, 8 discharged, 1 escaped, and 29 await trial.

Many hundred cases of suspected offenders are now undergoing inspection, and the current year will make considerable additions to the foregoing statistics. It is hoped that the fraudulent practices which in many cases were maintained for years will be wholly eradicated. The act of 1878 wisely provided ample authority for the requisite course of action, but the necessity for its exertion had not been made manifest until the changes in office during 1885 revealed the numerous contracts between the compensation claimed by new incumbents upon an honest reckoning and what had been paid to their predecessors. The entire number of cases in which orders had previously been made, beginning February 11, 1879, was but 37, and the aggregate amount reclaimed by them but \$19,380.45.

The Territory of Utah has developed an overproportion of these violations of the law, and combinations have been apparently sometimes made between postmasters to cover one another and thwart the inspectors. In one instance the correspondence has been secured by which the scheme was sought to be carried forward, and significant and interesting inferences of the extent and character of such confederacies are furnished by it.

The value of the action taken by the last Congress to prosecute these inquiries is thoroughly approved by the results obtained already, and its progress during the year can not but yield further confirmation.

Postmasters' Accounts and Returns.—The experience of the Department and the Auditor in dealing with postmasters' accounts, and the revision of the regulations for new publication, directed attention to the irrational and cumbersome methods in which these accounts have been kept and returns made, and to the lack of proper forms and instructions. Account books have been heretofore supplied only to postmasters of the first and second classes, leaving the great body of the postmasters to provide themselves with everything but the blanks for quarterly returns. All postmasters were required to keep general

or ledger accounts with the United States, in which certain items were to be entered. They were required also to keep separate books in which should be entered a record of all stamps and stamped paper, of all postal books, blanks, or other property, of all box rents, and of all other rents, emoluments, and moneys received by them in any way. They were required to make quarterly return of their "accounts-current" as one thing, and quarterly statements of their "general postal accounts" as another; and were enjoined to "particular care" not to include in the quarterly "statement" any items entered in the quarterly "accounts-current," but to enter in the "general postal account" all the items pertaining to it, and all payments on account of the quarter for which it was rendered.

From these twofold exhibits from each of the 55,000 post-offices, after their careful examination and correction, the Auditor has been required to settle quarterly their accounts. It is obvious that such a system must operate almost inextricable confusion, error, and delay. Even if the regulations clearly defined what things were to be kept and reported in one and what in the other of the accounts, it would be an unpromising requirement to make upon the ability as accountants of thousands of the postmasters, left to provide themselves with books and to their own resources for the means to keep them. But the regulations came far short of furnishing such clear instruction. They were, indeed, so confusing and contradictory, that it requires a clear and practiced mind to determine their meaning, and at best not without much risk of mistake. It necessarily resulted that a large share of the postmasters' accounts required to be practically made up by the Auditor, from such returns as they furnished and such information as subsequent correspondence secured. No further explanation is needed for the painful delays in the adjustment of postmasters' balances and their protracted waiting upon the United States for settlement. No office could cope with such a system so as to evolve clarity of understanding, certainty of result, and prompt adjustment from the vast number of accounts necessarily so crude and unsatisfactory. The duties of that office have obviously been excessively and unnecessarily onerous and complicated, and, in its best possible condition, these duties are sufficiently heavy.

The singular condition of the regulations and system of accounts described appears to have gradually been evolved from modes which in their origin were well adapted to the exigencies arising from the condition of the laws and the methods of the service at the time, but which lost their applicability by the passage of subsequent statutes or the adoption of other courses of service, productive of results to which the old system was inapplicable; and instead of the provision of new and appropriate forms of accounting, the old were unnaturally forced, with the aid of patch-work amendment, to the functions of the changed circumstances. A review of the regulations from an early period discloses this apparent explanation of the methods recently existing.

It seemed too manifest to admit of hesitation in an attempt to relieve the evils, that in the present usages of the service under existing laws every postmaster should keep (besides his inventory of public property other than stamps, stamped paper, and moneys) one account in which he should make prompt entries of his transactions, in simple form, and should return, quarterly, a statement of it, giving a summary of the quarter's business transactions under each appropriate head, and disclosing the correct balance to be deposited by or credited to him; and that it is the Department's duty to provide him the proper books in which to keep accounts and forms on which to make returns.

Accordingly, after much labor and ingenuity on the part of the Auditor, and numerous consultations, a plan of account for each month of the quarter was devised in such apt and convenient form that upon a single page every required daily entry can be accurately set down, and all the entries of the month consolidated, and the balance struck and carried forward. And another form for a quarterly return, equally ingenious and suitable, was provided. These, together with minute instructions for their use, and with a form for inventory, to be taken annually or whenever a change of postmaster occurs, were united in a book in such manner that the daily and monthly accounts and quarterly return require but six pages for a quarter-year, and yet provide for every entry requisite for the business of an office of the third or fourth classes. By official regulation under the statute these forms were substituted, with instructions for their use, in the place of the forms and regulations then in force; and the Department has caused to be printed and supplied to every third and fourth class postmaster one of these books, arranged to provide for accounts for a period of five years.

There were also issued, in time for making returns for the first quarter of the current fiscal year, the new blank forms for duplicate quarterly returns, and they have been made accordingly. The Auditor advises me that the results are satisfactory and of his expectation soon to be able to adjust each postmaster's account, if promptly rendered, in time to report to him his correct balance before the date required for the succeeding quarterly return. It is also anticipated that much relief will be enjoyed in the rendition of that part of the duties of his office which relate to and depend upon the returns of postmasters.

The beneficial advantage of correct, simple, and orderly accounting, easy to understand and to keep, for so vast and many-handed a business as that of the postal service, is incalculable. It can not but operate to repress dishonesty as well as to diminish error, and must yield pecuniary gains, by both means, of no inconsiderable amount. Irrespective of its advantages to the Department, it was obligatory, in fair dealing on the part of the Government towards its postmasters, to render them this assistance in their affairs.

The provision of the books and blanks required an outlay of about \$10,000 from the appropriation for printing, and, as this was unexpected, some further appropriation will be needed to carry through the current year the departmental demands upon the Government Printing Office.

Claims of Postmasters for losses "of money-order funds, postage stamps, stamped envelopes, newspaper wrappers, and postal cards," resulting from burglary, fire, or other unavoidable casualty, and of money-order funds lost or stolen while in transit by mail, as adjudicated by the Department, are shown by the report of the Assistant Attorney-General. It exhibits the action in each case, with the reason therefor, as required by the statute. Several claims not within the provisions of the act of 1882 were considered and allowed under special acts of the last Congress for the relief of the claimants respectively named therein.

The number of claims considered during the year was 607, of which 471 were allowed in whole or in part, and 136 wholly disallowed. The amount of claims presented in which final action was taken was \$51,814.42, and the amount allowed was \$40,600.55—\$10,996.21 for money-order funds, and \$29,604.34 for stamps and stamped paper. This total exceeds the like aggregate of last year by \$12,213.34; in part owing to considerable allowances in pursuance of special acts. Of the money-order funds, for which credit was allowed, \$75.96 were lost by fire, \$30.18 by storm, \$6,128.15 by burglary, and \$4,761.92 in transit. Of the stamps and stamped paper the losses covered by allowed credits were \$8,651.89 by fire, \$20,741.83 by burglary, and \$200.62 by storm or flood. Of the amounts embraced in claims allowed in part, \$3,076.52 were disallowed.

The wholly disallowed claims were, for money-order funds, \$5,448.36; the alleged losses being, by fire, \$249; by burglary, \$1,304.31; in transit, \$3,872; by larceny, \$23.05; for stamps and stamped paper, \$8,137.34, of which \$702.01 were claimed to be lost by fire, \$1,650.64 by burglary, \$35 by larceny, and \$301.33 for postal funds for which credits are not authorized under the act.

The reasons for denial of the 136 claims are summarized in the report thus: In 51 the losses were attributable to the postmaster's neglect; 13 were not presented within the limited time; 8 were not satisfactorily proven; 9 were abandoned or dismissed upon recovery of the property lost; and in 27 cases of lost remittances there had been failure to comply with the regulations.

In 103 cases safes were opened by burglars and the property abstracted. The large losses each year from burglary indicate some need of more effective efforts for prevention. Post-offices, particularly of the fourth class, are peculiarly exposed to the depredations of the burglar. They are frequently in buildings somewhat isolated or into which entrance can easily be forced. The statute forbids the postmas-

ter to deposit his postal or money-order funds in any except national banks. He must keep on hand a supply of stamps and stamped paper of considerable value. He usually deems his post-office the proper place of custody, and in many cases provides such a safe as his means will permit. Experience proves that but few ordinary safes are an obstacle to the skilled burglar. The largest losses adjusted under the act of 1882 are those in which the postmasters had relied upon the security of their safes.

The postmaster can be allowed no reimbursement for expenses incurred in efforts for apprehension, and the burglars are usually at a safe distance before a post-office inspector can reach the ground. Arrest and conviction but seldom follow, when the depredation is committed by the roving professional. It is worthy of consideration whether a moderate standing reward might not profitably be provided by law to be paid for the apprehension of such offenders, with evidence which shall secure their conviction.

Among the claims allowed pursuant to special acts, the sum of \$409.12 for postal funds lost by burglary was included. In the tables appended are included claims equally meritorious for \$802 of lost postal funds which were denied because the general act does not authorize their allowance. The last Congress so far departed from this policy, which leaves the burden of losses of postal funds upon the postmaster, as to pass several special acts directing allowance of claims, aggregating about \$5,000 for such losses. Congress will doubtless be called upon to consider many similar claims where postal funds have been lost by casualty without fault of the postmasters. In hundreds of claims heretofore adjusted losses of postal funds were proven. It is probable that the investigation of these claims can be more satisfactorily pursued by the Department, and that the same reasons which induced the act of 1882 suggest that the Department should be charged with the authority and duty of adjudicating claims for lost postal funds also, if the Congress purposes to so alter the past policy of the law as to place such consequences upon the Government.

THE TRANSPORTATION OF THE MAILS.

The large area of our country and the equality of privileges enjoyed in all parts of it, with the corresponding diffusion of all the advantages, accompanied by all the demands of high civilization, have caused the gradual augmentation of our system of mail transportation to its present immensity and continually press its greater extension. The most trustworthy statistics at command show that all the residue of the globe possesses no more miles of railroads employed in mail carriage than the United States alone, and that no other one nation maintains one-quarter the amount of other methods of mail transportation. Yet, year by year these services increase in extent, and, necessarily, in cost.

The general observation is to be made that, so great and continuous has been the construction of railroads, usurping the entire field of transportation and permeating so minutely the settled territory, the use of steam-boats has diminished and the star service is changing in character, many long routes being abandoned and numerous short routes substituted. The star and steam-boat service is much more within the discretionary government of the Department than the railroad carriage, and the advantage of this will be apparent on examining the gains accomplished in the reduction of cost, while at the same time more extensive and more efficient service has been secured. The heavy additions to the annual expenditure are due to the item of railroad transportation, the cost of which is fixed by law and little governable by the Department.

On the 1st day of July, 1886, the total annual rate of cost of the entire transportation service under the care of the Second Assistant Postmaster-General—which embraces all but the foreign mails—stood at \$29,073,328.56. The actual cost for the year was less, the expenditure already made being \$28,031,106.62, besides estimated unpaid liabilities of about \$252,000 for railroad service as yet in process of adjustment. So far as already paid, the expenditures, as contrasted with the rate of cost at which the year began and also the annual rate of cost on the first day of the current fiscal year, in the several items of this service are shown by the following table:

	Rate, July 1, 1886.	Expended during year.	Rate, July 1, 1887.
Railroad transportation, weight pay	\$15,924,863.00	\$14,707,281.94	\$16,775,938.00
Special facilities	251,726.00	285,372.81	295,987.53
Post-office cars	1,816,321.00	1,713,391.92	1,881,540.00
Postal clerks	4,516,826.00	4,693,381.01	4,827,468.00
Star-route transportation	5,091,225.28	5,119,649.30	5,040,790.87
Steamboat transportation	465,945.68	421,370.24	441,125.72
Mail-messenger service	831,223.00	825,338.17	826,610.61
Mail equipments (locks, keys, bags, and catchers)	235,198.60	265,320.33	*265,320.33
Total	29,073,328.56	28,031,106.62	30,354,828.16

* In the item of mail equipment no fixed rate of expenditure is established, as in the other branches; the amount of last year's expenditure is given instead.

In Railroad Transportation there was an additional employment of 7,016 miles of newly built roads, lying in the following States to the number of miles respectively stated: Kansas, 1,393.06; Nebraska, 754.66; Texas, 603.68; Illinois, 576.48; Minnesota, 417.75; Iowa, 335.35; Florida, 271; Oregon, 268.33; and in the Territory of Dakota, 419.13; the increased cost of which, not yet entirely adjusted, is estimated to be \$304,166.40. In making these additions to the service, however, the same principle has been applied which governs the adjustment of the statute rates above the daily weight of 200 pounds, and instead of paying the maximum price of \$42.75 per mile allowed for that full weight, the rates have been graduated according to the daily average weight. This has operated favorably to the public, because employment of new railroads has been often hitherto delayed when the amount of mail was so much less than 200 pounds as not to justify the

payment of the full rate, and favorably also to the roads, which increase their public value and hasten the growth of their business by carrying the mails; and although the rates bear somewhat disproportionately to the burdens when the weights are small, it is still much to their advantage to carry the mails at the price fixed by law rather than to await the growth of larger business. The economical effect of this course is shown by the lessening in the average cost per mile between the past and the preceding year, although there have been greater additions to the service. The following table, furnished by the Second Assistant, shows the changes since 1872 in this service:

Comparative statement showing total length of railroad routes; annual increase and annual percentage of increase in length of routes; annual rate and increase or decrease in rate of cost, and average annual rate of cost per mile for weight; annual increase or decrease in cost for railway post-office cars; total annual rate of cost and total annual average cost per mile for weight and railway post-office cars combined, from 1873 to 1887, inclusive.

Year.	Total length of routes.	Annual increase in length of routes.	Annual increase in length of routes.	Annual rate of cost for weight.	Annual increase in rate of cost for weight.	Annual increase in rate of cost for weight.	Annual decrease in rate of cost for weight.	Annual decrease in rate of cost for weight.	Annual average rate of cost per mile for weight.
	<i>Miles.</i>	<i>Miles.</i>	<i>P. ct.</i>			<i>P. ct.</i>		<i>P. ct.</i>	
1873.....	63,457	5,546	9.57	\$7,257,196	\$754,425	11.60			\$114.36
1874.....	67,734	4,277	6.74	9,113,190	1,855,994	25.57			134.54
1875.....	70,083	2,349	3.40	9,216,512	103,328	1.13			131.50
1876.....	72,848	2,765	3.23	9,543,134	326,616	3.54			131.90
1877.....	75,546	2,698	3.63	9,653,936			\$489,198	*5.12	121.45
1878.....	77,129	2,574	3.45	9,566,595	512,659	5.06			124.64
1879.....	79,991	2,871	3.72	9,567,590	1995	10.01			119.60
1880.....	85,329	5,339	6.66	9,297,945			329,645	3.44	108.77
1881.....	91,562	6,233	7.32	10,240,281	1,011,316	10.95			111.34
1882.....	100,563	9,004	9.82	11,297,323	1,048,072	10.23			112.34
1883.....	110,208	9,645	9.50	12,288,769	991,461	8.75			111.58
1884.....	117,160	6,952	6.50	13,275,605	984,807	8.01			113.29
1885.....	121,632	4,472	3.70	14,758,495	1,484,899	11.19			121.55
1886.....	125,323	3,691	2.39	15,520,191	761,696	5.16			125.29
1887.....	130,999	7,016	5.60	16,174,691	654,500	4.23			123.52

* Caused by 10 per cent. reduction under act of July 12, 1876.

† Caused by 5 per cent. reduction under act of June 17, 1878.

‡ No separate appropriation was made for R. P. O. cars until fiscal year ended June 30, 1880, and, consequently, the accounts prior to that year for this service were combined with those for cost for weight of mails.

Year.	Annual rate of cost for R. P. O. cars.*	Annual increase in rate of cost for R. P. O. cars.	Annual increase in rate of cost for R. P. O. cars.	Annual decrease in rate of cost for R. P. O. cars.	Annual decrease in rate of cost for R. P. O. cars.	Total annual rate of cost for weight and R. P. O. cars combined.	Annual average rate of cost per mile for weight and R. P. O. cars combined.
			<i>Per cent.</i>		<i>Per cent.</i>		
1873.....						\$7,257,196	\$114.36
1874.....						9,113,190	134.54
1875.....						9,216,512	131.50
1876.....						9,543,134	131.90
1877.....						9,653,936	121.45
1878.....						9,566,595	124.64
1879.....						9,567,590	119.60
1880.....	\$1,231,641.00					10,498,956	123.05
1881.....	1,364,197.00	\$132,556	8.17			11,613,368	126.82
1882.....	1,455,851.00	91,714	6.73			12,759,181	124.81
1883.....	1,590,001.00	134,150	9.04			13,887,990	126.01
1884.....	1,726,197.00	136,196	8.76			15,012,633	128.13
1885.....	1,869,468.00	143,271	7.60			16,677,983	137.36
1886.....	1,810,321.00			\$33,167	2.81	17,370,512	139.86
1887.....	1,881,630.00	65,259	3.60			18,050,272	137.86

* No separate appropriation for R. P. O. cars prior to 1880.

The regular quadrennial weighing took place in March last in the third section, comprising the States of Illinois, Iowa, Wisconsin, Minnesota, and Missouri, and showed the enormous enlargement of the service by the remarkable increase of 16.03 per cent. in the aggregate over the weights at which their payments stood adjusted; adding to the annual rate of compensation to the roads in that section the gross sum of \$601,247. The expectation, derived from the weighings in the middle section last year, was of an increase of about 12 per cent., but sufficient allowance had not been made for the rapid expansion of business, testifying to the prosperity of the western section.

The considerable increase in the amount of new service caused unavoidable delay in the adjustments of the compensation and disappointed the desire of the Department for prompt settlement at the end of the year, according to recent usage, so that at the time of the Auditor's report 4,195 miles awaited disposition. The arrearage is not, however, at all disproportionate, in view of the amount of new service, to that of any recent years, as the Second Assistant shows by his table, and will be removed so soon as the information necessary to adjustment is obtained.

The prospect for the current and the coming year is of large additions to the railroad service, doubtless an average of 6,000 miles in each. Already, up to the 21st of October, new service has been ordered on 2,555 miles since the beginning of July.

The fast-mail service gained an important addition by the facilitation effected between Pittsburgh, Saint Louis, and Kansas City, and most of the Southwest territory. Arrangement was made for a special mail train from Pittsburgh to Saint Louis, and another thence to Kansas City, whereby the Eastern mail is delivered at the latter place in the forenoon instead of at night, as theretofore, and in time, by the considerate accommodation of the outgoing roads in deferring somewhat their morning hours of departure from Kansas City, to effect immediate connections for the great Southwest and California; resulting in the gain of a day to the business interests of that section and their Eastern correspondents. The General Superintendent of the Railway Mail Service gives in his report an interesting table showing the advantages so secured in detail. Copies of the contracts made are appended.

The appropriation for special facilities on certain roads mentioned in the last report was expended according to the estimate; chiefly upon the Atlantic Coast Line. The General Superintendent and Second Assistant recommend the continuance of this appropriation. I think it ought to be conditioned on the time being so shortened on the southward trip as to put the mail train in Tampa, Fla., at least as early as 3 o'clock in the afternoon, so that the mail steamer may reach Havana by sunset of the following day; with corresponding facilitation on the northward run. The time seems fairly arrived to insist upon this speed, and the growing importance of the Cuban mail demands it.

The Steam-boat Service requires a brief notice only. In previous reports the considerable changes made in the interest of economy have been discussed. The resulting advantage is sharply presented in the fact that the addition last year of the fine service between Tampa and Havana, at a charge of \$54,000 and an increase in the routes elsewhere, were accomplished with a net decrease in cost, as compared with the year before, of \$13,229.82. Wherever it can be made useful, the Department seeks the aid of this mode of carriage; but the fact cannot be but apparent that on few inland routes, comparatively, can it now compete with more expeditious means resulting from the extension of railroads and the use of short auxiliary star routes for distribution.

The Star Route Transportation merited, and has received, a rigid and judicious scrutiny, resulting in many changes productive of more efficiency and marked reduction of cost. The sound principle that the mail accommodations should fairly meet all justifiable demands and reasonable wants has been faithfully observed; but excessive and unnecessary charges have been curtailed, routes remodeled to provide as good and often better service at less cost, and in some instances, where no adequate results followed, given up altogether, and new contracts have been obtained at the annual lettings for better prices.

In March, 1885, the annual rate of cost of this service stood at \$5,430,993; and contracts had been during the preceding winter awarded to begin on the 1st day of July, 1885, which added to that rate of cost \$238,856; leaving the service to stand, if unchanged at the latter date, at the annual rate of \$5,669,849. On the 30th day of September, 1887, this rate stood at \$5,020,498.71; and it is believed the facilities afforded are superior in usefulness. This conclusion is obvious from the comparison of the number of routes, mileage of service, and rate of cost per mile. On the 30th of June, 1885, the number of routes stood at 12,371, aggregating 232,222 miles in length, and requiring annual travel of 83,027,321 miles, at the cost of 6.52 cents per mile. On the first day of the current fiscal year the routes numbered 14,368, an increase of 1,997; their total length was 236,896 miles, an addition of 4,674; their aggregate annual mileage of travel was 85,133,077, being 2,105,756 miles of greater service; and the rate of cost was 5.921 cents per mile, a gain roundly of 6 mills to the mile of travel in decreased cost.

Notwithstanding, therefore, the considerable increase of the service necessary to the rising demands of the country, the actual decrease in the expenditure between last year and the year ending June 30, 1885, was \$283,609.70; and the reduction on the cost of the fiscal year 1886 is more, because of the considerable increase of expenditure put upon that year by the contracts previously made, as already mentioned, and the necessarily gradual process of change (as inspection and study disclosed the means of improvement) operative of reduction in cost for but a portion of the year. To a less extent in total changes, but in pursu-

ance of the same policy, the transactions of the past year have contributed to diminish the rate of cost and enhance the value of the service, and their full result does not appear in the decrease of expenditure of the year, but will be even more operative on the current year.

The following brief table contrasts the condition and cost of the star service last year with the average of the seven years 1879-1885 inclusive:

Average years.	Miles traveled.	Annual cost.	Rate per mile.
1879-1885	77,705,236	\$5,925,537.00	<i>Cents.</i> 7.67
1887	84,230,284	5,119,649.30	6.05
	*6,554,048	†805,887.70	‡1.62
* Miles gained. † Saved. ‡ Decrease.			

The Mail-Messenger Service, being the transportation which the Department must provide between distant railway stations, steam-boat landings, and post-offices, has been carefully reviewed and some improvements secured. The rate of cost at the close of the last year was \$829,548.61, and there had been an increase of 163 routes over the previous year and a decrease of \$5,311.39 in the annual rate. The expenditure in total was \$825,338.17, being \$40,801.53 less than the cost in the year ending June 30, 1885. A balance of \$74,661.83 of the appropriation remains unexpended.

Fines and Deductions imposed on contractors and others in the service for failures and delinquencies and remissions thereof upon explanation or excuse were as follows:

On whom imposed.	Fines and deductions.	Remissions.	Net fines and deductions.
Railroad companies	\$208,725.01	\$61,373.46	\$147,351.55
Star route contractors	54,194.79	11,668.11	42,526.68
Steam-boat companies	26,790.49	2,752.04	24,038.45
Mail messengers	2,324.59	.....	2,324.59
Postal clerks	3,760.73	99.57	3,661.16
Total	295,795.61	75,893.18	219,902.43

Complaints for failure or delinquency in the carriage of the mails have been less frequent than formerly, indicating a more satisfactory performance of the service.

The Railway Mail Service, its extent, increase, changes, operations, and conditions, are presented in the report of the General Superintendent, from which and accompanying exhibits it appears that at the close of the fiscal year there were 913 lines of railway post-offices, an increase of 42, extending over 116,609.12 miles of railroad, an increase of 5,936.82; the clerks in the service numbered 4,851, an increase of 278; the total daily distance run by clerks was 130,958.53 miles, an increase of 7,213.38. The entire miles of service performed by clerks in

crews was 107,067,643, a gain of 6,143,733 over the preceding year. These clerks handled 5,834,690,875 pieces of ordinary mail matter; 505,169,400 more than in the previous year.

The statistics of case examinations and errors continue to show favorably the improving efficiency and discipline of the service and the correction of abuses therein. The record of probationers receiving permanent appointment is higher than for several years past, as shown by the following averages:

Year ended June 30—

	Per cent.
1882	80.49
1883	80.37
1884	81.41
1885	83.11
1886	82.68
1887	85.34

Unhappily the casualties to clerks in their perilous service were more numerous and distressing. Five were killed by accidents while on duty, 45 were seriously and 72 slightly injured. Fifty were disabled to such extent that their places were filled for a time by acting clerks at the Department's cost. In this connection I again urge the suggestions in my report for 1885, that some provision be made for these servants of the Government who are seriously maimed or permanently disabled in a service which puts them to such risks of life and limb. If the promise were hopeful, the argument might be well enlarged upon. The man who shall bring this deserving subject so effectively to the favor of Congress as to secure the enactment of suitable legislation will earn for his benevolence and service the grateful homage of a faithful body of public servants and a monument in the hearts of all right-feeling people.

The report of the General Superintendent, to be found in the appendices, merits a careful attention, and its details will suggest many interesting deductions. It will be much to the public advantage if his recommendations for provision of a chief clerk for that service and fairer rates of pay for the examining clerks and assistants to the division superintendents, as well as for the addition of two division superintendents, shall meet with favor. No one can look with care to the present immensity of this system without yielding the ready assent of his judgment to the expediency of these changes.

The qualifications of postal clerks, their selection for appointment, and tenure of office are subjects of too great importance to be passed without some expression of the opinions which anxious care and study of the railway mail service during two years and a half have begotten. The public interests involved in this service are tremendous, and their security is now based on a too uncertain foundation. Viewed entirely from the standpoint of the common interest of all our people, requiring the instant, unflagging, accurate, and faithfully honest handling of

many thousand million pieces of mail annually, which are not only the missives of friendship, but the messengers of finance, trade, and profitable intercourse of unspeakable value, it seems impossible to question the enormous gain in efficiency of performance, and in security for the unfailing continuance of efficient performance, which will result from previous education and a rigorous examination of the men to be charged with these duties, their judicious selection, and assurance of a tenure during good behavior. This statement is made notwithstanding the fact that the railway mail service is to-day in superior condition, I am thoroughly assured, to that of any previous period. No immediate exigency presses. The present is easy and safe, nor is there cause for serious apprehension in anything within near view. But, though all this be, the perils of the future are too obvious and too immense to be disregarded, and they may be the better avoided by calm prevision than risked to sudden encounter in realization.

The postal clerks constitute a body different in many particulars from any other force of the Department. Postmasters, post-office clerks, and letter-carriers serve chiefly the particular localities in which they live, and if disorder anywhere arises from their incompetency or misconduct its effects will be, with slight qualifications, local and easily remediable. And already the provisions of law applicable to the greater offices are devised to prevent the appointment of incompetents, or derangement by sudden extensive changes. Mail carriers, other than railroads, are bound by well-secured contracts to the execution of their duties; and these are also measurably local, and their failure would be harmful to but a limited extent and only in isolated instances, since there is no general interweaving of their functions. Railroad transportation is differently situated, and merits an especial and separate consideration, to which attention will be invited.

But the postal clerks compose a connected and interdependent body, which operates over a wide area, handles the most important mails, and requires constant and efficient co-operation in all its parts. The failure in duty of any one clerk affects more than a single locality, and, with exception only of branch lines, the failure of performance on a single line will operate injury to many others. If serious interruption in the functions of any of the numerous trunk lines were to happen, immediate and general derangement of the service in many States, and of incalculable injury, would inevitably result. It is not difficult to imagine such an interruption of the course of business through an unlawful confederacy of clerks—which has been already once deliberately attempted—as would inflict injuries upon business interests liable to result in general disaster; and such is the present state of the law that no statute would perhaps be thereby violated, unless that aimed against conspiracy. Such an event is doubtless not very likely to occur, nor the grosser disorders imaginable to be regarded as menacing evils. It is enough, however, that they are possible, and, more particularly, that much individual lack

and resulting impairment of general efficiency must follow unsatisfactory methods, to command the attentive care of the thoughtful to seek and find that system of best promise to prevent all possible risks of injury, when every disorder may inflict extended harm.

Postal clerks must, in the beginning, possess native qualities of body and mind adapted to their duties. They must be of sound physical constitution, strong and enduring of continued labor, with a quick and yet retentive mind to keep fresh for instant call the mass of irrelative facts they are charged to memorize for ready use, and quick also in physical response of eye and limb to the requirements of rapid thought. They must be of patient temper and kindly dispositions to perform effectively in crowded collaboration their tiresome and sometimes vexatious tasks. Especially must firmly-rooted honesty, incapable of weakness in any temptation, rule their minds, in order to justify their trust with the numerous packets of value daily passing through their hands. Super-added to such natural gifts and fixed habits of character, there must be long and patient study and training in the service, varying, of course, from the possible acquirements of a few months on the least important to years on the heaviest lines. And notwithstanding the schemes for their various work are so devised that all mutually contribute to the most rapid dispatch of mail matter to destination, their duties on different connecting lines, even, require such differences in memorizing and distributing that an expert clerk can not shift from one to good performance on another without additional protracted study and preparation.

Nor is the pay of these clerks such as either to command its seeking by the most ambitious and well equipped, or to maintain a strong hold upon them who have become expert in the knowledge and skill of the postal car, unless security of tenure shall follow good behavior.

So signally helpful to the public service is a well-trained, well-disposed, faithful, honest, and patriotic postal clerk, who is devoted to his duty, and content to confine himself to its excellent performance as his best recommendation, eschewing foreign contentions which excite needless animosity and invite attack, that no superior who sustains the care of the service fails to recognize the injury to the public interests of his loss. It is undeniably true that equally as good may elsewhere be found, and in time a practiced and competent successor may stand in his stead. But it is not enough for the particular exigency that humanity betters with time, and the present and future hold as suitable for every vocation as the past. Time is of the essence of excellence in the mail service, and immediate provision for a loss is its imperative demand, rendering the needless loss of a valuable, well-governed employé in such a place a breach of public duty. The private wrong may be also great, especially when many years have been given to faithful service of the Government for a rate of pay which offers no possibility of much saving, and natural disqualification for other avocations can not but have resulted.

Nor is there any necessity, in any interest, justly measured, for the disturbance of valuable clerks in this service. Its demands for new appointments, resulting from the application of proper discipline, the changes which wise exceptions on the general doctrine—unnecessary to now discuss—continually require, and the constant increase of numbers by expansion, not only afford sufficient opportunities for entrance on it, but already tax the appointing power in many cases to provide the best material. The statistics of appointment during the history of the service approve this conclusion.

To secure fairly-taught and suitable eligibles for original appointment it would appear a practicable course to provide the Department with means for an annual or semi-annual examination in each of the States and Territories, under proper regulations. Information of the general subjects to which examinations would be directed, the ordinary duties of postal clerks, and, as well, of the qualities of person and character requisite, might be readily furnished to all intending candidates to guide their preparatory work. Germany has wisely provided a school for instruction of persons in her postal service in which a regular course of lectures is established. In the absence of such aids, the proper preparatory course of study may be pointed out and profitably pursued by applicants and their proficiency be measured by examination, without fear of the abuse of mere superficial preparation. The scholastic requirements are simple and easily attainable. Careful scrutiny of the personal characteristics, physical, mental, and moral, is of even superior necessity.

The utility of some well-advised system of distinguishing the fit among the many seekers for such places is approved by all the experience of the service. All appointments have been habitually made for a probationary period of six months. Yet for years, indeed always, the proportion of failures has been very great—approximating one-fourth of all nominated. These unfit appointments result in futile efforts to make competent clerks, the loss of the money paid for their salaries, the embarrassment of the service by their valueless presence hindering for so long the employment of satisfactory men, and the humiliation of the unsuccessful. It seems too obvious for argument that the discrimination may far better precede appointment so far as possible, and that the mere pecuniary cost of it will thus be less.

The Department will be much aided in another way. Its postal-car lines extend over 117,000 miles of railroad. The clerks ought, generally, for apparent reasons, to come from the region traversed, and should be fairly distributed along the respective lines. Thus it is of frequent occurrence that an appointment is urgently required from a community of which no convenient information to guide the choice is at hand, and injurious delay is sustained, which a list of examined candidates would at once relieve.

The tenure of valuable clerks during good behavior is sufficiently secured by such a method of selecting appointees—by no means its least commendation—without impairment of the perfect disciplinary government of the entire body. It is probably enough for this object that every candidate must pass the periodical scrutiny, abide its effect, and wait the proper vacancy for his nomination. Additional benefit will be gained by well-considered legislation providing proper penal effects for acts done individually or in concert which might imperil the utility or security of the service.

When the vast extent over which the central office must extend its care, the great number (already near 5,000) of its postal clerks, the personal qualities and training indispensable, the large proportion of probationary failures, with consequent embarrassments, and especially the vast interests depending in more or less jeopardy upon the highest-strung perfection of this service, are fully understood, the urgency of adequate means to aid its choice of men, the unwisdom of leaving it in such comparative helplessness that near one-quarter its appointments fail, wear a clarity of color not to be hid by any opposing interest. The public exigency is supreme, and obvious.

The postal service is prominent among the agencies which the common Government can better wield for the common good than any private or corporate hands. Yet its efficiency demands so vast a body of public servants, responsive to the will of the central authority, that no branch is more within the just apprehension of lodging excessive power in the Federal Government. No principle has been more aptly and vigorously invoked to limit the extension of the Department's powers, especially to withhold control over the kindred function adjoined to it by so many civilized countries, the management of correspondence by the electric wire. Yet no counteracting force can more effectively modify the danger and deliver the agency of Government from the chains of that wise fear to a greater public usefulness than such a course of appointment and such a tenure in appointees as will render them dependent only on excellence in public service and fidelity to the common interest, while they remain in and subject to the influences of different localities to which they belong and their service is immediately directed. Discrimination in original selection diminishes the risks of incurring the censure of sound discipline; and amenability to no other criticism for continuance in duty enfranchises the officer in great degree from the perilous subserviency.

It may some time be required of this Department to undertake control of the most advanced and rapid modes of correspondence of modern device. I purpose no discussion of the subject, which has already attracted and must continue to enlist the general attention of the Congress to such an extent that discussion here could be of little additional value. It involves protracted argument upon not only the question of general expediency, but of the proper means of dealing justly with pres-

ent conditions. Yet, if it shall happen that the difficulties yield to patient consideration, and the demands of the country for the best auxiliaries to its business facilities, it will be of supreme importance to the end to make wise provisions for a safe and satisfactory establishment of the requisite force of employés without dangerous increase of Federal power, and steps for improvement in the establishment of the postal service must be a beneficial beginning.

The present status (October 31, 1887) of the force is shown, so far as figures may show it, by the following recapitulation of changes during the time of my service in this office:

The whole number of clerks March 7, 1885, was	4,356
To which have been subsequently added	495

Making a total October 31, 1887	4,851
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Of the clerks in service at the first date named—

The number remaining is	2,271
The number gone is	2,085
Appointments to new places	495

Making the present number of my appointment	2,580
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Total	4,851
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To effect these changes, irrespectively of the 495 added clerks, it has been necessary to make appointments to the number of 3,138.

For vacancies occurring as follows:

By resignation	1,309
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By removals:

For partisanship	383
For disciplinary causes	805

By death	84
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By expiration of probationary appointments recommended by division superintendents to be dropped	405
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By expiration of probationary appointments made recently before March 7, 1885	152
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	3,138
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Added new appointments	495
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Total number of appointments	3,633
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Of the resignations, some were in anticipation of failure on probationary examinations, and some because unfitness had been disclosed by the regular examinations of clerks not on probation. On the 31st day of March, 1885, notice was given through the Daily Bulletin that—

Railway postal clerks who have become efficient and valuable men, against whom a just complaint of neglect, inattention, or want of fidelity, honesty, or efficiency has been brought, and who have not turned their attention to political labors during their service, need have no fear of being disturbed so long as they continue to render meritorious and faithful service.

Experience has strengthened the conviction of its expediency as a rule of service, and it has been faithfully observed. There may yet remain, doubtless, some within its exceptions, the facts concerning which have not been known.

Employment of Railway Carriers.—The unsatisfactory state of the law, as it now stands, for the employment and compensation of railroads for the transportation of the mails requires no fresh demonstration. It has long been a topic of annual representation, and the Congress has attempted more than once to find a solution for the difficulties in which it is involved. An inquiry was made by a committee of the Senate in 1874, resulting in a report of value, but not in legislation. By the act of July 12, 1876, a commission of three persons was provided for, "to examine into the subject of transportation of the mails by railroad companies, and report to Congress at the commencement of its [then] next session such rules and regulations for such transportation and rates of compensation therefor as shall, in their opinion, be just and expedient, and enable the Department to fulfill the required and necessary service for the public." Failing to finish its work by the date limited, the commission was further authorized by the act of March 3, 1877, to continue and complete the service required of them. This commission made an extended inquiry and collected information of value. Failing to agree in conclusions, majority and minority reports were submitted in 1878, and subsequently attempt was made to attain a determination by enactment, but the bill failed of passage, and no valuable result was secured.

The inquiry was renewed by a commission of officers of the Department in 1883, and a project for a law submitted, which also failed of adoption. In 1885 the Second Assistant Postmaster-General was directed by me to renew the pursuit of some basis for satisfactory legislation, and after much study made many excellent suggestions, his conclusions being shown in the report of last year. This was accompanied with the draught of a proposed enactment, upon which no action was taken.

Thus, many apparently promising efforts have ended fruitlessly, and the evils which have been so long recognized remain not only unrelieved, but intensified by the accumulation of many additional miles of routes and a vast increase in the volume of the mails transported.

The difficulties of solving this problem do not diminish with lapse of time; they steadily increase. The peril to the public is not lessened, but augments yearly. There must be legislation adapted to the conditions of the time, or this wretched system, with its inequalities, injustice, unnecessary expenditure, irritating complications, and risk of signal disaster, must remain a reproach to the Department until some serious misfortune awakens decisive action.

It is well-nigh a hopeless task, if not an unpardonable assumption, in view of this experience, for one to venture on any suggestion of

amendment. The importance and the perils of the subject must apologize for the attempt.

The thought has arisen, in reviewing the projects which have failed, that their attempts were too radical, sought to reduce all engagements to a single scale, and thus encountered too many and too powerful opposing interests, and that possibly if, instead of striving for immediate reduction of the entire mass to one arbitrary scale, more moderate measures were begun, they may be followed, upon successful experiment, with other cognate and naturally sequent steps without disorder or injury.

The statutory rule of compensation is based on the daily average weights of the mail, to be obtained by ascertaining the entire weight carried by each road during a period of at least thirty successive working days, at intervals not exceeding four years, and computing therefrom the average weight carried daily the whole length of the route. Thereupon is applied the scale to fix an annual contract price for all mails whatever until another weighing. The prices are *not to exceed* for each mile of the railroad route the following sums per annum, as reduced by various acts, for established average daily weights, respectively:

Not over 200 pounds	\$42.75
Not over 500 pounds	64.13
Not over 1,000 pounds	85.50
Not over 1,500 pounds	106.88
Not over 2,000 pounds	128.25
Not over 3,500 pounds	149.63
Not over 5,000 pounds	171.63
Not over each additional 2,000 pounds	21.38

This scale of rates is by regulation subdivided so that for each hundred pounds increase in the average daily weight its proportion of the next statutory step is applied.

In return, the railway carrier must provide "sufficient and suitable room, fixtures, and furniture, in a car or apartment properly lighted and warmed for route agents to accompany and distribute the mails"; must convey the mails with due frequency and speed upon all such trains and in such manner as the Postmaster-General prescribes, including the fastest trains on the road; must deliver them into all terminal post-offices, and into all way offices not more than 80 rods distant from the station, and must carry post-office inspectors and special agents, mail bags, blanks, and stationery supplies without further charge.

The operation of this statute in its best application fixes rates of pay not proportioned to the burdens imposed, and of very unequal proportionate compensation, overpaying some roads heavily and underpaying others; and the ascertainment of weights is exposed to much risk of fraud and uncertainty. It is manifest, also, that as the weights on some roads greatly increase from time to time, the rate must be either unfair to the Government in the beginning or unfair to the roads in a

short period, or that frequent weighings must be had in special cases. The latter is especially a vicious course in experienced consequences. Another result, illustrative of the evil, and frequently inflicted on the service under the present system, is that, after weighings have taken place and rates been fixed thereon while the mails were dispatched in large volume over some particular route, by the subsequent action of the companies connections have been broken and the current of dispatch entirely changed, rendering the pay established much out of proportion.

Superadded to the foregoing system, and multiplying its inequalities of operation, the statute further provides additional pay "for every line comprising a daily trip each way of railway post-office cars, at a rate not exceeding \$25 per mile per annum for cars 40 feet in length; and \$30 per mile per annum for 45-foot cars; and \$40 per mile per annum for 50-foot cars; and \$50 per mile per annum for 55 to 60 foot cars."

This compels all roads not requiring a 40-foot car for the mails to perform nearly the same proportionable car service for the weight pay alone that is required of the roads on which postal cars are operated, and to which this large—how large will presently be shown—additional pay is granted, and which also necessarily receive much more weight pay. This tended to the illegal course heretofore reported on, of allowing certain favored roads additional pay for apartments of less than 40 feet; a practice which occasioned an unlawful expenditure of nearly \$1,000,000, that had risen to an annual charge of \$80,000 when, two years since, it was stopped, and that, if it had been fairly and equally bestowed, would have required nearly or quite a million a year.

The statute is seriously defective in its omission to grant authority to require and compel the service of railroads in mail transportation. So far as the statute goes, it is at the mere option of these common carriers to serve the Government, and it illustrates the defect and evil of it to state that one road, the Old Colony Railroad Company, of Massachusetts, has notified the Department of its refusal to comply with the statute if the Department does so by insisting on the provision of cars necessary to proper mail service; a condition which can only be temporized with until Congress shall have opportunity to consider what measures of legislation may be proper.

The aggregate of effect as between the Government and its railway carriers undoubtedly is, to impose an excessive charge on the Treasury, probably a large annual sum; while in particular instances the recompense is inadequate. Were a just, fair, and reasonable compensation awarded to each carrier, much of the discontent arising from unequal treatment should disappear and a substantial reduction of the total cost result.

Among the committees of inquiry there has been consensus in one opinion, that car space instead of mail weights should be the main ba-

of measurement of pay. But this has been so qualified by differences in the proposed modes of application, and in respect to additional compensation for frequency and speed, that little advance toward solution of the problem has been accomplished.

Among the possibly desirable amendments of present methods, there appears to be one step of great advantage to the Government, one preparatory to any more radical change, which may be immediately taken without the least injustice to the roads. I append a table (Appendix D) showing all the lines of railway on which separate postal cars were, on the 30th of June last, run for the additional pay, their respective lengths, number of trips, annual mileage, number of cars in use and in reserve for contingencies, the size of such cars, average weight of mail, annual transportation pay, annual post-office-car pay, and total compensation; and the whole recapitulated in a summary exhibit. Careful inquiry discloses that very many of these cars, such as they are, would not cost to build \$3,000 each, that the best 50-foot cars can be built for \$4,000 to \$4,500 each, a new 60-foot car equal to the most complete and handsome now in the service for not over \$4,600; and that taking together all the post-office cars in the United States their average value does not probably exceed \$3,500; certainly not much more.

Pursuing the inquiry into the cost of cleaning, heating, lighting, supplies of oil, ice, dusters, scrub-brushes, soap, lamp-fixtures, pails, and other minor articles of daily use, embracing all necessary labor, and including ordinary repairs, it appears that \$60 per month for each car in use is an ample provision. The appended table shows that all the post-office cars in the service of the Department number 432; of which but 342 are in ordinary use, and 90 are in reserve on different lines for contingencies. It is within bounds to affirm that all these might be to-day purchased or their duplicates manufactured for \$1,600,000; add for cleaning, etc., as above, at \$720 per year each for 342 in use, \$246,240, the total is reached of but \$1,846,240. Yet simply for the use of these cars for the last year, including cleaning, etc., the Department was under the annual rate of charge by the existing system of \$1,881,580, and the estimate deemed necessary to submit in prudent provision for the coming fiscal year, on the same basis, is \$2,000,000.

Reference to special instances in the annexed table of the longer lines discovers greater disparity than the average. In illustration, \$59,037.75 is annually paid on one line for the use of 4 cars that might be built and fully equipped in the best modern style for less than \$17,500. And this *in addition* to the full weight pay for transportation, amounting in the case mentioned to \$504,573.69.

Instead, then, of appropriating \$2,000,000 to rent the use of these cars for the coming year, why should not the appropriation be of a smaller sum to buy them, and of another, say \$250,000, for their keeping, the two together not aggregating the proposed rent? The Department

will thereafter gain at least \$1,500,000 per year while sustaining the cost of casualties.

This involves no injustice to the railroads. If the change terminated at this point, and each such road should then store, inspect, and transport these cars, as heretofore, for only the weight pay, it would enjoy the advantage of the same rate of compensation given all roads which carry in apartment cars, without the burden of furnishing the use of the cars, or of keeping them.

It cannot be objected that the Department is unable properly to assume the charge of these cars. The Department can easily discharge these functions. It might receive the custody of all the cars in the service, and thenceforward care for them, on a month's notice. With moderate addition to its force, the railway mail office can provide for the manufacture of all necessary. Whatever may be done by any private hands may as well be done by the Department.

Ownership by the Government of its postal cars can not but much relieve the difficulties of the compensation problem. So far as they are concerned, their transportation may be compensated, doubtless, by the payment of a just price per mile for the distance each car is run, upon a scale not difficult to arrive at fairly; to be accompanied with simple provisions for the protection of the mutual rights of the Government and the transporting companies. The advantages and convenience of such a system will find many strengthening arguments which are not now enlarged upon. Provisionally, the continuance of the present rate of payment would be more than just, as has been demonstrated.

The elimination of the lines on which post-office cars are run will much simplify the compensation problem. Payment for transportation in cars, of which but a portion is used for mail service, can probably be adjusted more easily upon the basis of space employed, the favorite remedy of those who have examined this subject. Such cars will necessarily be drawn in the usual passenger trains, and the vexatious complications touching speed and frequency slip out to a great degree.

All fast mail trains, with few exceptions, draw only post-office cars and express cars. In the gradation of compensation for the transportation of these, suitable allowance may be made for special time. It is probable, also, now that so many roads compete for the business which flows on the principal routes, that resort may again be had to the method of soliciting bids for the trunk-line service of the Department.

Such has been the difficulty of arriving at a comprehensive scheme by a single enactment, and so great would necessarily be the embarrassments of undertaking at once to transfer all the mail service to another and entirely different basis, that it may seem the more prudent course to proceed by successive legislative steps and by successive adjustments of the service accordingly, submitting temporarily to a portion of the present evils rather than risk the possible derangements to follow any attempt at general immediate remedy. In this view, little

to be gained by attempting to forecast too far the precise methods of their changes.

It will be indispensable, at the outset, whatever shall be attempted, to exert the rightful prerogative of Government and impose it as an imperative duty on all railway carriers to accept and transport at the compensation established by law, and according to the statutes and departmental regulations, all mails, mail supplies, postal clerks, and inspectors on duty, with sufficient sanctions to enforce compliance. Unless such legislation be provided, no success upon any plan can be assured. The right to this acquiescence in the purposes of the Government is undeniable. The absence of means to compel acknowledgment by obedience constitutes a menace to the business of the country which ought not to continue.

In 1838 the Parliament of Great Britain enacted a law which it has been unnecessary since to alter, giving to the postmaster-general of the Kingdom power to require any railway company to carry the mails on such a schedule and by such trains as he found necessary to the public service, leaving the question of compensation to be settled by mutual agreement, or, failing that, by arbitration. The latter is rarely resorted to there and is not a satisfactory process. In the United States the Congress has fixed the rates of just compensation by statute, and may continue doubtless to so determine them with justice. In whatever way that be settled, the carrier ought to be without power to deny the use of his transportation, in order to extort more pay or greater advantages than the law has adjudged suitable. His redress of supposed grievances should be sought from the legislature, not through compulsion of his Government.

The Foreign Mail Service has been satisfactorily conducted during the past year. The use of all vessels, whether foreign or domestic, departing from our ports for other countries, has been regularly tendered to the Department and the most favorable opportunities for frequent and rapid transportation afforded by ocean carriers have been availed of. In the transatlantic service, where many vessels of rival lines compete for patronage, the swiftest have been chosen for employment from week to week in accordance with the settled policy of the Department. The service so secured is unequalled by that of any other country; contrasting conspicuously to our advantage with the service inward from Great Britain, which is maintained at greater cost and less efficiency by adherence to the system of contracting with particular lines for annual subsidies. The rates paid by the United States are highly remunerative to the principal companies whose swift ships secure the heaviest mails; probably yielding greater profit, proportioned to space, weight, and expense, than anything transported except jewels and precious metals; if, indeed, they are to be excepted.

The Department is recently in receipt of a petition signed by prominent merchants, importers, and bankers who deal with foreign countries, requesting its good offices to assist in inducing the postal administra-

tions of European Governments which dispatch direct mails to the United States to adopt a similar policy, and send their mails hither by the swiftest vessels departing from their ports, irrespective of the flags under which they sail, and suitable action has been taken to invite consideration of the subject by foreign postal administrations. Upon other routes the carriage has been chiefly in American steamships, at the threefold higher rates of sea and inland postage, although no foreign vessel has hesitated to accept whatever mails were offered for sea postage only.

The entire weight of our foreign mail dispatches by sea was nearly 1,500,000 kilograms, or 3,278,269 pounds, of which 568,728 were of letter mail and 2,709,541 pounds of prints and merchandise samples. Nine-tenths of the letter mail was European-bound, and but about one-tenth for South America, the West Indies, Pacific islands, and the Orient combined; but of the paper and samples mail the latter countries received nearly one-fourth, and the dispatches across the Atlantic were little over three-fourths.

It is interesting to note from the latest compilation of general postal statistics by the International Bureau of the Universal Postal Union that although the United States are surpassed by Germany, by Austria, and by France in the number of letters dispatched to foreign countries—as might be anticipated upon contemplation of the circumstances of those countries on the Continent—yet that in number of newspapers mailed to foreign destinations our country stands far in the lead, amounting in the single year to about 34,750,000 pieces, while France followed next, but much behind, with 23,250,000, and Germany dispatched less than 11,000,000. This superiority doubtless arises in good part from the advantage given by the convention with Canada to our publishers, of sending thither at the pound rates of domestic second-class matter, a privilege extended by the recent treaty with Mexico.

The increase in the gross weight of our ocean mails was about 410,488 pounds; the transatlantic letter mail gaining 10.59 per cent. and the Central and South American 19.21 per cent.; the paper mail in approximate similar ratios. As an indication of increasing trade with the countries of our hemisphere these are acceptable facts. The increase in the sailings from our ports of steamships bound for the West Indies, Central or South American ports is pleasingly cumulative, having been greater during the last fiscal year than for many previous years, perhaps than for any, the total number of such sailings at the three ports of New York, New Orleans, and San Francisco being reported at 831, as against 712 during the preceding year.

These gains in the volume of mails find expression also in the rising scale of cost for the maintenance of this service, which is reported as follows:

For transatlantic service.....	\$314, 330. 32
For transpacific service (including inward service on certain mails from non-conventional countries).....	38, 465. 49

For West Indian, Mexican, Canadian, Newfoundland, and Central and South American service.....	\$51,416.44
For the postal agencies at Shanghai and Panama.....	2,392.20
For Panama Railway service.....	6,018.74
For foreign closed mails.....	24,773.86
	<hr/>
	437,447.05
Of this sum deduct amount settled for in payment of balances to foreign countries.....	11,628.52
	<hr/>
And there is left chargeable to the appropriation for foreign mail transportation.....	425,818.53
Add the expense charged to the appropriation for payment of balances to foreign countries and for our share of expenses of the International Bureau.....	54,286.86
	<hr/>
Total cost of service	480,105.39

The appropriation "for transportation of the foreign mails" was but \$375,000, and the deficiency in that item is, therefore, \$50,818.53. The appropriation to pay balances was \$100,000. It will be observed that the cost of the service to those countries to which American steamships mainly ply approximates one-fourth of the whole, notwithstanding the letter mail to them was but about one-tenth, which was occasioned by the payment of sea and inland postage to vessels of domestic registry.

In the report of last year there was some discussion of the advantage which might be derived from direct mail service with the countries lying on the River Plate, in South America. A petition for the establishment of such service has been recently addressed to the Department by merchants in New York engaged in that trade, inciting the further consideration of that project. This Department has information that the Argentine Republic regards so favorably a direct steamship line with the United States as to have proffered an annual subsidy of \$120,000 in their currency, equivalent to \$100,000 in ours, for the institution of a monthly service between New York and Buenos Ayres. This may eventually induce its establishment, without requiring from the United States the payment of a higher rate for the transportation of their mails than is now authorized by law. It has so far failed, however, while it seems probable that the allowance of a compensation of perhaps \$3,000 or \$4,000 per month by this Government will prove a sufficient additional stimulus to immediately secure this desirable service. Unless properly met, also, the offer may be withdrawn.

I have nothing to add to what has been hitherto submitted on this subject except that I have seen no reason to think such a course may not be pursued in the particular case, if it should meet the approval of the Congress, without crossing the boundary which distinguishes true mail compensation from mere subsidy, a boundary which should be defended with firmness but without the sacrifice of any advantageous postal facility.

A new postal convention with the United Mexican States was negotiated during the year through the honorable Matias Romero, envoy extraor-

dinary and minister plenipotentiary of the Republic, was ratified by the Senate of Mexico, and, having thereafter received your approval, went into operation on the 1st of July last. The provisions of this convention promise, it is believed, results of high value to both Republics. It extends to the citizens of each country the privileges of the mail service of both at the same rates at which they enjoy their own, and admits to the international mails of both all the articles of mail-matter allowed in either, with but a few necessary exceptions. Under this convention articles of merchandise not exceeding 4 pounds in weight may be transmitted, being so packed as to be capable of ready examination, and upon their arrival at destination are rated with the proper customs duties and delivered to the addressee on his payment of them. This dispenses with the usual formal requirements, and attending fees and charges, of invoices, consular certificates, and the like, for entries at foreign ports, and affords a simple and comparatively unrestrained trade in such articles as may be within the limited weight. The number of these is considerable, and the establishment of purchasing agencies in Mexico by our merchants, already begun, will facilitate and extend the trade in such goods. It is hoped that within no long time hence this opportunity may be still further widened by the conclusion of a parcels post arrangement with the Mexican Republic.

The differences in the currency values of the two Republics hinder largely the full enjoyment of the exchanges under this treaty; and, with a view to relieve this inconvenience, negotiations have been begun, looking to the conclusion of a money-order convention, which will enable the transmission of purchasing funds between the countries. The advantage to both countries from such further arrangements are so manifest and considerable in other points of view beside the conveniences of trade alone, as to justify a reasonable expectation of their early establishment.

Parcels Post Conventions have never been hitherto negotiated with other countries, nor have any domestic arrangements of the kind been set on foot. It has been our policy to leave to express companies and other carriers the transportation of all parcels above theailable weight of 4 pounds, and no general demand for any change in this policy has ever arisen, such service by private hands having apparently been hitherto accepted as satisfactory. This, however, has little or no relation to the interchange of small parcels of merchandise with foreign countries. The restrictions of the tariff laws, not only in the duties imposed but still more in the troublesome and expensive requirements attending the passage through the custom-house and the forwarding of articles, have to a great degree prevented the purchase here by persons presiding abroad, or their sending hither, the smaller goods in retail, which within our borders are freely purchased, though long distances intervene between the buyer and seller.

It has seemed probable that this obstruction might be removed with

great advantage to our people, especially to our merchants and the ocean carriers, by concluding with the countries of our continent and the contiguous islands arrangements for the use of the mails for such purposes, which would afford entire freedom of transmission of single parcels of moderate weight and size, subject only to the payment on receipt by the addressee of the proper duty, without further charges. It is a reasonable belief that by providing such freedom of direct individual dealing, much increase of retail trade will follow, and the enlargement in the volume of the mails redound to the benefit of the carriers in part as well as to those directly pursuing it. The question was therefore submitted to the Attorney-General whether, under the authority given by the statutes to the Department to conclude with your advice and consent postal conventions with foreign powers, it is permissible to fix by such conventions a higher limit of weight and size on articles to be admitted to such mails than that provided by law for domestic mails. Upon consideration the Attorney-General resolved this question in the affirmative, and advised the Department that the power so granted was not limited by the statute defining the mailability of matter for domestic mails.

A convention was soon negotiated with the governor of Jamaica for the exchange of articles by the parcels post-system, which had indeed been previously urged by the enterprising postal administration of that island, and having been duly signed, received your approval and came into operation on the 1st day of October. Since then a similar convention has been likewise concluded with Barbadoes, which will take effect on the 1st of December proximo. Copies of these conventions are appended hereto. Their general provisions are simple, admitting articles of a weight not exceeding 11 pounds, and of corresponding size; to be so packed as to be readily examinable; to bear a customs declaration, in a simple, fixed form, which dispenses with all other trouble on the part of either sender or addressee except payment by the latter of the proper duties when the package is delivered; and to be shipped in separate boxes or sacks properly marked, to distinguish them from the ordinary mails. The postage fee is 12 cents per pound, or fraction thereof, payable in advance; and the addressee is required to pay a delivery charge of 5 cents if the parcel does not exceed a pound's weight, and at the rate of 4 cents per pound for higher weights. The latter provision affords the proper and usual division of the business between the contracting countries without the necessity of keeping and adjusting international postage accounts. Provision for return receipts and other minor points is made.

Besides the foregoing, negotiations have been opened with the countries of the Central and South American states, and the favorable replies received indicate that, after a sufficient consideration, many, if not all, will join in this arrangement of such excellent promise to enlarge the commercial and individual intercourse between the peoples of

this continent. It is the purpose of this Department to spare no pains to this end, if the course shall be found to have the favor of Congress.

The great gain which would surely follow such a system with the Republics of Uruguay and the Argentine Confederation furnish additional reasons for the provision of a direct mail between those countries and ours.

The Superintendent of Foreign Mails calls attention to the delays which are occasioned by the frequent failure of vessels destined to ports on this continent to sail on the days appointed caused by departing either before or after, as their freight business may require, and suggests the payment of premiums for prompt performance and deductions for delays. It is worthy of careful consideration.

Two foreign agencies were maintained—one at Shanghai, the other at Panama—with the usual results.

THE FINANCIAL EXHIBIT.

The past four years constitute an interesting epoch in the financial history of the postal service. The fiscal year 1882 closed with a cash surplus of about \$1,400,000; and the year 1883 increased the amount to nearly 2,000,000. With the single exception of the year 1865, there had been an annual deficiency in the revenues of the service to meet its expenditures for thirty years, sometimes of large, at others of small sums. Upon the concurrence of two years of surplus, the rate of letter postage was reduced from 3 to 2 cents, thus striking from the revenue one-third of its principal supply. This change took effect on the 1st of October, 1883, and was directly operative during but nine months of the fiscal year 1884. Its effect was marked, necessarily, and at the end of the year the historic deficiency was again restored to the ledger in the sum of three and a quarter millions. The increase in the employment of the service expected from cheapening of rates did not appear in the following year; but the revenue continued to diminish and the expenses to increase so that the 30th of June, 1885, found a balance of nearly 7,000,000 against the service to be defrayed by the General Treasury. This result was due, beyond doubt, to the general business depression prevailing from the autumn of 1883 in the financial circles of the country, and the inference seems fairly indicated that the volume of the mails and the employment of the postal service depend less upon the differences in the rates of postage, when already low, than upon the condition of general affairs, by which the service becomes more or less desirable to business men. The later results add to the apparent correctness of this deduction.

Notwithstanding the already large deficiency, the act of 1885, which took effect on the first day of the fiscal year then approaching, imposed two further limitations upon the sources of revenue, by doubling the weight for the single rate of letter postage, making the unit an ounce instead of a half ounce, and diminishing by one-half the charge upon newspapers and periodicals, from 2 cents to 1 cent per pound. The measure

of money loss of the former it is difficult to determine, but has been estimated as probably from \$800,000 to \$900,000; the loss by the latter is practically a calculable sum—about \$1,200,000. Contemplating the consequences of these limiting changes in the postage rates, it was not anticipated that a less deficiency than \$9,000,000 would be found on the 30th of June, 1886, although an increase in gross receipts sufficient to yield a total revenue of \$44,000,000 was estimated. The revenue came somewhat short, about \$64,000, of the latter sum, but the expenditures were found capable of reduction to less than the estimated total by so much that the deficiency, instead of increasing, was lessened nearly \$70,000, and amounted only to about \$6,900,000.

The past fiscal year has been burdened by no change in the rates of postage, while the highly prosperous condition of business affairs, giving loose to the enterprise and activity of our people, has greatly augmented the employment of the service and improved its financial aspect. To keep supplied the rising demands upon it, some increase in the scale of expenditure has been requisite; yet the increase in gross revenues has gone so far beyond that the year closed with a deficit of but \$4,000,000, reducing the postal burden on the General Treasury nearly three-sevenths. May not the hope be fairly indulged that, as the same happy circumstances of successful business and profitable enterprise remain apparently in undiminished vigor, the advantageous disproportion in the increasing ratios will continue on the side of the revenue; so that the Congress, in prudent forecast and wise employment of them, may apply coming gains to the generous perfection of the agencies of this minister of universal usefulness?

The cost of transportation upon the Pacific railroads, as well upon the unsubsidized branches as the subsidized lines, has been excluded in all these statements, as it has been from the cash accounts of the service during former years; because, notwithstanding the difference determined by the Supreme Court, the Congress has hitherto refused appropriation of money on this account, and no payments have therefore been made.

Subjoined are summaries of the general items of the financial account during the past five years, giving with exactness the figures which have been above but roundly mentioned:

FOR THE YEAR ENDED JUNE 30, 1883.

Revenue: Ordinary postal	\$45,097,073.24	
Money-order business	411,619.37	
		45,508,692.61
Expenditures to September 30, 1885	\$43,519,187.96	
Net balance closed by bad debts	38,802.82	
Audited	1,758.44	
		43,559,749.22
Cash surplus		1,948,943.39
Deduct credits to Pacific railroads for transportation		915,710.22
Net surplus		1,033,233.17

REPORT OF THE POSTMASTER-GENERAL.

FOR THE YEAR ENDED JUNE 30, 1884.

Revenue: Ordinary postal	\$42,818,035.00
Money-order business	507,322.00
	<u>43,325,357.00</u>
Expenditures to September 30, 1886	\$47,062,623.56
Balance closed by bad debts	8,455.83
Additional liabilities	3,500.75
	<u>47,704,580.14</u>
Cash deficiency	3,748,621.38
Add credits to Pacific railroad companies for transportation	1,543,417.00
Total excess of cost over revenue	<u>5,292,024.52</u>

FOR THE YEAR ENDED JUNE 30, 1885.

Revenue: Ordinary postal	\$42,151,910.53
Money-order business	408,933.30
	<u>42,560,843.83</u>
Expenditures to September 30, 1887	\$49,533,149.55
Outstanding liabilities	1,639.10
	<u>49,534,788.65</u>
Cash deficiency	6,973,944.08
Add amounts for Pacific railroad companies for transportation	1,344,752.13
Total excess of cost over revenue	<u>8,318,686.94</u>

FOR THE YEAR ENDED JUNE 30, 1886.

Revenue: Ordinary postal	\$43,597,871.08
Money-order business	350,551.87
	<u>43,948,422.95</u>
Expenditures to September 30, 1887	\$50,839,434.87
Estimated outstanding liabilities	2,500.00
Balance closed by bad debts	12,174.25
	<u>50,854,109.12</u>
Cash deficiency	6,905,686.17
Add credits and earnings of Pacific railroad companies	1,363,631.23
Total excess of cost of over revenue	<u>8,269,317.40</u>

FOR THE YEAR ENDED JUNE 30, 1887.

Revenue: Ordinary postal	\$48,118,273.94
Money-order business	719,335.45
	<u>48,837,609.39</u>
Expenditures to September 30, 1887	\$52,391,677.43
Amount certified and not reported paid	75,000.00
Estimated amount not yet reported to Auditor	251,700.00
Amount of indebtedness incurred for which appropriation is required	119,302.98
	<u>52,837,680.41</u>
Deduct net gain by suspense account	23,566.80
	<u>52,814,113.61</u>
Cash deficiency	3,976,504.22
Add credits and earnings of Pacific railroad companies	1,482,598.92
Total excess of cost over revenue	<u>5,459,103.14</u>

The several sums earned by the Pacific railroad companies on unsubsidized roads, and not above included in the cash expenditures because not disbursed, were respectively in the following years, as follows: In the fiscal year 1883, \$217,697.89; 1884, \$193,800.73; 1885, \$247,830.44; 1886, \$251,101.61; 1887, \$295,571.59.

The Revenue of the past year enjoyed its chief increase from the sale of stamps and stamped paper, in which the gain was \$4,223,887.96, more than 10 per cent. This item had the advantage of the estimated amount of \$122,000 arising from the sales of special-delivery stamps, of which one fifth only is the share remaining after the allowance for delivery is made; and it was doubtless augmented by the operation of the order made in 1886 admitting to the mails fluids, pastes, and powders formerly excluded, but which, by reason of improved modes of packing of recent invention, may now be safely carried. There was also a gain of nearly 15 per cent. in the sale of newspaper and periodical stamps, over 4 per cent. better than the general rate of increase. The main cause, however, was the activity of business; and the large gain is a pleasing testimony both to its flourishing condition and to the usefulness of the service as its auxiliary.

The revenue from the money-order business is nominally more than doubled; but this is only an apparent, not a real, gain, and is due wholly to the fact that clerical service in post-offices on money-order account was, under the act of 1886, charged last year to the appropriation for clerk-hire in post offices, instead of deducted from the money-order proceeds. There was in fact a diminished money-order revenue, the consequence of the reduction in the rates charged for international orders and for domestic orders of \$5 or less. The item of box-rents shows the substantial increase of \$140,451.94, and the receipts for mails carried for foreign countries rose about 56 per cent. Every avenue of revenue gain was manifestly quickened, the miscellaneous receipts being more than trebled.

The Expenditures show an apparently rising percentage of 3.4, which, although but one-half the average of the six years ended June 30, 1885, which was 6.8 per cent., yet exceeds the ratio of increase in 1886, which was but 2.6 per cent. In fact, however, there was little, if any, addition to the ratio of growing expenses, because the item of clerk-hire for money-order business, amounting to over \$300,000, which in 1886 and previous years was deducted from the money-order proceeds, the act of Congress mentioned transferred last year to the other side of the account, and because the sum of \$92,726.42, allowed out of the receipts for special-delivery business is entered as an expenditure of the service, instead of being deducted from such receipts, a course pursued as the more convenient method of keeping the accounts.

Making these allowances it will be seen that the service of the year has been as economically carried on as during the preceding, and is entitled to as favorable consideration in comparison with the several

years before. This is of consequence in estimating the probable results of the current and coming year.

The appropriation for postmasters' compensation, an expense over which, if legitimate, the Department can exercise no control, was exceeded by \$229,481.41; the appropriation to compensation to post-office clerks by \$235,812.74, although there was actual reduction in the cost of this service, as already explained. The Department has been obliged to incur indebtedness in excess of appropriations for its supplies of adhesive stamps to the amount of \$6,884.45, and for stamped envelopes to the amount of \$65,237.78; expenses caused by and contributing to the large gains in receipts from their sale; and for supplies of wrapping paper in the sum of \$2,165.77, and for official and registered package envelopes of \$17,813.49, arising from the great increase of the business of the service, and of \$50,818.53 for foreign mail transportations, because the volume of the mails so much exceeded the anticipation of Congress. Of the latter item, the sum of \$24,773.86 is for closed mails carried for foreign countries, and is only a nominal expense, the whole amount being returned in the settlement of their balances. The several items mentioned will require to be provided for by a deficiency appropriation. The amounts due for supplies of paper, adhesive stamps, and envelopes of both kinds ought to be included in one urgent deficiency bill and promptly provided, because they were properly payable during the year past on delivery of the purchased articles, and but for the considerate favor of the contractors in furnishing the needed supplies the service would have suffered. No increase in price was paid in any case and no obligation to pay interest incurred; and the earliest possible discharge of these debts is an obligation upon the honor of the Government.

Notwithstanding the appropriations for these items of supplies were exceeded, it is to be noted that the actual expenditures have been less than before, and that the supplies bought and issued have been much greater in quantity. The appropriations were overrun, because they were largely reduced in consequence of the favorable arrangements effected by the new contracts of the Department, and the magnitude of the coming demand was not sufficiently foreseen. Thus in 1885 the total expenditure for adhesive stamps was \$137,753.47, while for the last year the appropriation was but \$116,700, the entire cost but \$123,584.45, or \$14,169.02 less than in 1885; and yet the increase over 1885 in the issue of ordinary stamps was 281,862,585 in number and \$5,344,528 in face value. So, in the item of official and registered-package envelopes, the expenditure in 1885 was \$90,097.26; for last year the appropriation was only \$67,200; the entire cost \$85,013.49, or \$5,083.77 less, while the number of such envelopes issued exceeded 1885 by 17,129,300; being an increase of more than 40 per cent.

In the item of wrapping paper the expenditure in 1885 was \$34,997.60; the appropriation for last year but \$30,000; the total cost but \$32,137.59,

or \$2,860.01 less than in 1885, but the purchases and issues were nearly double in quantity. The stamped envelopes and newspaper wrappers were under a four-year contract, which did not expire until the 30th of September, 1886, at which date the new contract, fully described in the report of the Third Assistant of last year, came into operation, so that the whole of the fiscal year 1886 was governed by the old contract. The expenditure for that year under this head was \$692,435.04, while the appropriation for the year 1887 was but \$583,500, having been passed from estimates based on expectation of the operation of the new contract. The better prices and more convenient forms under that contract so largely increased demand that the issues have been beyond anticipation, very much to the advantage of the service and the revenue. The quantity of stamped envelopes put out last year exceeded that of 1886 by 27,269,350 in number and \$496,993.48 in value, and of newspaper wrappers by 333,850 in number and \$3,797.35 in value, yet the total cost was only \$648,737.78, being \$43,697.26 less than the year before. These facts show that the incurring of these deficiencies was not only demanded by the imperative and gratifying wants of the service, but that there has been good saving in every item of these expenditures, besides the resulting gains of revenue.

There was increase in the expenditures, as contrasted with 1886, for the free-delivery service of \$306,325.35, for transportation of mails by railroads of \$557,880.09, for railway post-office cars of \$21,944.12, for special facilities in railroad service of \$33,831.99, for compensation of railway postal clerks of \$225,603.83, for mail bags and catchers of \$30,595.53, and for special deliveries of \$25,074.28, all of which have been discussed and explained in previous pages. The payment of balances to foreign countries required \$22,359.77 more than in 1886 because of the greater volume of our foreign dispatched mails, an increased cost much to the advantage of our revenue and quite beyond departmental control, if desirable. There was also an increased expenditure over 1886 for postal cards of \$13,320.21 from the greater quantity sold, to the gain of the revenue. Otherwise, the excess of expenditure over 1886 was in but small sums for supplies and needed provision for the enlarged demand upon the service, needing no special comment.

On the other hand there was a decrease from the expenditures of 1886 in the cost of star-route transportation of \$332,806.89, of steam-boat service of \$50,077.02, and of mail-messenger service of \$8,630.21, the result of the reductions before explained. And other lessening of cost in various small sums in other items, for which reference is made to the table. Altogether there was increase in expenditure over 1886 in 23 items, and decrease in the remaining 14 items of appropriation; and, as compared with 1885, there was increase in the expenditure of but 17 items of appropriation and decrease in 19 items, there being in 1885 no special-delivery system, and hence one head less of account.

Although there was during the last year an excess of expenditure in seven items, as shown, in the other thirty there remains unexpended of the appropriations a total sum of \$2,532,206.39, which, after the discharge of the yet outstanding liabilities, estimated liberally at \$326,700, will be covered into the Treasury.

The Department has striven to pursue the simple policy previously set forth in former reports, of providing all the enlarged advantages and conveniences which would subserve the public interests freely, but at the same time maintaining a firm economy in the means taken to the end. The hope entertained of the results of this course is now in process of realization, and in that condition the policy is justified, and the severity of the labor of its maintenance rewarded.

The Current Fiscal Year has commenced with all the manifestations of business activity and consequent continuing demand upon the postal service which characterized the past. Little advantage is to be derived from any attempt to further forecast its results than this fact indicates. The appropriations have been settled and at this time appear in the aggregate to be more than sufficient. It is now certain, however, that the sum fixed for the compensation of postmasters is inadequate. It is the same as for the last year, and was then overrun by nearly \$230,000, as has been stated. No inconvenience will follow, and no action is necessary to supply the deficiency until its true amount shall be accurately known. The appropriation for the transportation of the foreign mails is also insufficient for the expenditures inevitably to be incurred under that head. The lacking amount can not yet be definitely computed, but probably may be, approximately, in time for the Congress at its coming session to supply it. Otherwise there is no present reason to apprehend any marked want of appropriation, and there will doubtless be considerable unexpended balances.

The probable revenue of this year has been estimated upon the footing of the results of the past. The gain in postage on newspapers and periodicals was 14.79 per cent., and this percentage of increase has risen during each of the last three years. It may be expected to exceed 15 per cent. this year, but to avoid overestimation is placed at 14. The ordinary postal revenue gained at the rate of 10.3 per cent. last year. It appears to be moderate to anticipate a gain of at least 9 per cent. The money-order business is placed at \$730,000, less than \$11,000 more than it yielded the past year; a difference which will be more than gained by the saving of expense under the new contracts for its supplies. It would not be unreasonable to expect more than \$750,000.

The revenue for this year, so estimated, is shown by the following figures:

Amount of ordinary postal revenue, exclusive of receipts from second-class matter, for year ending June 30, 1887.....	\$46, 855, 925. 11
Add increase of 9 per cent.....	4, 217, 033. 95
	<hr/> 51, 072, 958. 36

Amount of revenue from second-class matter for year ending June 30, 1887	\$1,262,348.83	
Add increase of 14 per cent	176,728.83	
		<u>\$1,439,077.66</u>
Ordinary postal revenue, total estimated amount	52,512,036.02	
Amount of estimated revenue from money-order business	730,000.00	
Total estimated gross receipts for year ending June 30, 1888 ...	53,242,036.02	

The appropriations exceed this total by \$2,100,114.13. But they are placed above the expected expenditure rather than below it, and the deficiency will be a million less than the sum so indicated, if the prosperity now enjoyed continues. In making a similar calculation last year, the difference between the estimated revenue and the appropriations was more than three millions greater than the deficiency is found to be.

The Next Year's Estimate is necessarily more uncertain. It may be conjectured that, as usual during the period of a Presidential canvass, there will be somewhat less of business activity and somewhat more carriage of newspapers and periodicals; but there is, at best, little more than conjecture to base an estimate upon. The following is the calculation upon which the estimate was transmitted to the Secretary of the Treasury:

Estimated amount of ordinary postal revenue, exclusive of receipts from second-class matter, for year ending June 30, 1888	\$51,072,958.36	
Add increase of 8 per cent	4,085,836.66	
		<u>55,158,795.02</u>
Amount of estimated revenue from second-class matter for year ending June 30, 1888	\$1,439,077.66	
Add increase of 15 per cent	215,861.64	
		<u>1,654,939.30</u>
Total estimated ordinary postal revenue	56,813,731.32	
Amount of estimated revenue from money-order business	750,000.00	
Total estimated gross receipts for year ending June 30, 1889 ...	57,563,734.32	

The estimates submitted for the appropriations aggregate \$58,967,233.74, a sum greater than the estimated revenue by \$1,403,499.42. It is designed, however, to submit the estimates for appropriation in each of the thirty-six items prudently high, and the aggregate of unexpended balances may be reasonably expected to be more than the foregoing difference, as it has been during each of the three or four years past. Unless legislation or some unforeseen event changes the relation between revenue and expense, a cash surplus may be confidently anticipated as the product of the coming year.

The Stamps and Stamped Paper, embracing ordinary and request envelopes, letter-sheet envelopes, newspaper wrappers, and postal cards, from the sale of which the revenue is chiefly derived, form the subject of several interesting pages in the Third Assistant's appended report. He exhibits the very considerable reduction in the

cost of stamped envelopes under the new contract which went into operation on the 1st day of October, 1886, a sum estimated to amount during its term of four years to over three-quarters of a million of dollars, the benefits of which go to the public in the reduced cost at which the envelopes are sold. The advantage of the use of stamped envelopes is clearly explained, and it is gratifying to note that a largely increased demand for the special-request envelope has arisen.

The changes in the colors of the adhesive stamps and the embossed stamps, which were ordered during the past year to secure uniformity, are explained, and as well the new designs of some, and of the postal card. I wish to mark for notice his comments on the sub-agency system, just begun, for distributing supplies of this kind. Its advantages are well shown and they commend its permanent adoption.

The letter-sheet envelopes are issued under a contract, the character of which was fully explained in my last report, largely to determine experimentally their value to the public. There appears to be little doubt that the present product is not satisfactory. The sales during last year were less than 3,500,000 in number. But it is very clear that if the letter-sheet envelopes could be printed, when manufactured, with a form of letter on the interior they would be extensively bought and used. They are manufactured now upon a machine which transforms the bare paper, automatically fed to it from a roll, into completed envelopes, printed, gummed, and embossed with stamp, without the intervention of any other labor than that of operating the implement. It is said to be easy to add to it the printing of any desired matter in the nature of a communication within, with little more of added cost than the composition and stereotyping of the forms. The combination of all this in one process of manufacture would furnish these at such prices as to command a large sale, and they could not but greatly convenience many forms of business and add sensibly to the revenue of the Department by their enlarged use in substitution for postal cards. The difficulty of printing on these envelopes after they are manufactured by the present method is such as to render its expense a bar to much use of them in that way. It would be easy to obviate this in the manner indicated. But the proposal may be expected to encounter opposition by those who will apprehend it would trench somewhat on their employment; an influence which, in various forms at different times, has shorn the service of many features of advantage to our people.

Another course may be pursued with probable gain of convenience to business men. There are many different devices for the letter-sheet envelope and those interested in them seek the privilege of the embossed stamp of the Government. Unless some one of these is taken up and manufactured exclusively by the Department on its own account, the rule of equality ought to be applied to the owners of these devices, and no one given a preference. It appears to be entirely feasible to place the embossed stamp on any such of these as proffer payment of its

face value and the cost of the work, similarly to the practice of the Treasury Department some years since in printing the revenue stamp on bank checks, without risk, leaving it to those interested to find their customers who could select the letter-sheet envelope most to their wishes.

The subject ought to await such action as the Congress shall think wise to take at the next session. If no action be taken, the existing contract should be terminated with this fiscal year, and further experiment abandoned by the Department.

The Third Assistant Postmaster-General also interestingly discusses the registration service, the improvements effected by changes during the year, especially in the post-office service, and the registered-pouch and inner-sack exchanges. No special recommendation is urged, there is no occasion to repeat, and nothing to add.

The details of the various financial transactions of the Department with the Treasurer, the assistant treasurers, and depositories, as well as the minute exposition of all the fiscal affairs of the service, are given in the report of the Third Assistant and the Auditor. The principal facts and inferences only have been presented.

THE DEAD-LETTER OFFICE.

The Dead-Letter Office was placed under charge of a superintendent at the beginning of the year, as a separate office, pursuant to the act of Congress authorizing its detachment from the office of the Third Assistant. From the report of the superintendent it appears that the work of this office has considerably increased. During the year 5,578,965 pieces of mail matter were treated, increasing by 11.4 per cent. over 1886 and by about 17 per cent. over 1885. This increase is in part attributable to the enlarged volume of mail matter transported, and partly to the greater care taken by postmasters in rendering returns of undelivered matter and withdrawing from the mails such as is unmailable.

Among the interesting items of the work performed it is to be noted that 456,183 pieces of mail arriving from foreign lands were returned to the country of origin; that 12,725 letters, inclosing in the aggregate \$22,639.12, and 21,868 letters, containing drafts, notes, checks, money-orders, etc., to the amount in face value of \$7,581,761.10, were restored to the owners.

There was derived to the postal revenue from dead mail matter the sum of \$9,593.77, \$714.48 in excess of the previous year.

Magazines, pamphlets, and other reading matter incapable of return, have been distributed to the various charitable institutions in the District of Columbia, in all 18,182 pieces.

The report contains carefully prepared statistics, for which reference is made to it, which fully demonstrate the advantages of the present organization of the office. Through improved methods and better dis-

tribution of work the same clerical force, with the same expenditures, accomplished during the year over 11 per cent. more business than was done in the preceding year.

THE INSPECTION SERVICE.

The report of the chief of post-office inspectors, herewith submitted, gives a summary and carefully tabulated statistics setting forth as fully as can be shown the results of the labors of the inspective force for the year and attesting the excellent discipline, zeal, thoroughness, and steady improvement of this branch of the service. The duties of inspectors embrace not only the detection of depredators but the investigation of most of the cases of public complaint, especially such as arise from casualties, losses, irregularities, violations of law, breaches of discipline, the conduct of business in post-offices and other agencies, the furnishing of information as to the character and competence of officials, and various inquiries concerning every branch of the service. The prompt and clear discernment and correct action of the Department depend largely upon the zeal, ability, and intelligence of these officers. Special effort has been made to promote the efficiency of the force and to secure the speediest action consistent with thoroughness in all matters referred to it. Two years ago the business had fallen considerably in arrear, and some 35,000 cases of more or less importance were awaiting examination, so long delayed that satisfactory investigation of a large number was rendered impossible. By energetic exertion this work was closed up and the current business of the year also received prompt action. At present the cases under inquiry relate mainly to current business. The following summary contrasts the work, results, and costs for the past four years :

Fiscal year.	Cases referred.	Cases investigated.	Money recovered.	Cost of service.
1884.....	50,410	47,134	\$45,125.92	\$187,194.00
1885.....	56,269	51,219	73,555.87	199,239.57
1886.....	63,354	84,363	115,513.41	194,956.39
1887.....	75,009	70,965	253,951.00	197,624.63

Cases for action of inspectors are thus classified :

Class A.—Depredations upon, delays, and losses to domestic registered mail matter.

Class B.—Similar complaints concerning ordinary mail matter.

Class F.—Complaints affecting foreign mail, including violations of customs and other laws.

Class C.—Miscellaneous cases, such as breaches of law or regulations by contractors, officials or employés in the service; the inspection of post-offices; the leasing of buildings; proposed establishment, discontinuance or change of post-offices, post routes, free-delivery or mail-mes-

senger service; losses by burglary, fire, or other casualties; the responsibility of sureties on bonds, and many others affecting the well-being of the service.

In the first-named class 5,286 complaints were referred to inspectors during the year, and 993 cases remained undisposed of at the close of the previous fiscal year, making a total of 6,279. Of these, 5,680 have been investigated; in 1,961 complaints proved groundless; in 2,325 cases no loss resulted; in 681 cases the losses were caused by accident, without fault of the postal service; in 121 cases no trace of the article or evidence of responsibility for loss could be obtained. In 1,339 cases out of nearly 12,000,000 pieces of registered matter was actual, irreparable loss sustained, and of these, 680 were caused by the burning of postal cars, post-offices, or other accident, leaving 637 cases properly chargeable to depredations or irregularities; a favorable exhibit, as appears from the following comparative statement:

Fiscal year.	Number of pieces handled.	Loss of one piece in every—
1883.....	10,459,716	9,009
1884.....	11,246,545	8,982
1885.....	10,551,642	8,488
1886.....	11,102,607	10,665
1887.....	11,914,792	11,556

Of Class B, 42,096 complaints were received during the year, and 9,777 cases were on hand at its beginning, in all 51,863; of which 43,017 have been fully investigated. In 24,423 cases letters were lost, delayed, or rifled; in 18,524 they were alleged to contain valuable inclosures; 16,264 ordinary packages of third or fourth class matter were reported lost, rifled, or destroyed; 11,130 cases are believed to be chargeable to the depredations or carelessness of postal employes; in 8,117 no loss occurred; in 12,829 no discovery could be made. These complaints embrace losses caused by the burglary or theft from 620 post-offices, the burning of 298, the burning or wreck of 81 postal cars, the robbery of 13 mail stages, the robbery of 5 railroad trains and 18 mail-messenger wagons, the accidental loss of 153 mail pouches, and the rifling or theft of 226. The ratio of loss to the amount of matter handled has evidently considerably diminished, as compared with previous years.

In the foreign-mail cases (Class F), the report presents exhibits showing the painstaking efforts put forth in tracing irregularities and the satisfactory results in a large proportion of the cases.

Among the miscellaneous cases, a summary of which need not be given, 773 arrests are reported, of which 211 were of persons in the service and 562 were not; 94 were postmasters, 24 assistant postmasters, 24 clerks in post-offices, 11 railway postal clerks, 23 letter carriers, 23 mail carriers, 4 special-delivery messengers, and 8 other employes. One hundred and thirty-two arrests—an increase of 53 over last year—

were made for burglary, greater efforts having been directed to the prevention of this class of depredators than heretofore. In 713 cases the Federal courts took cognizance, and the State courts in 60. Conviction followed trial in 144 cases, acquittals in 26; 485 await trial, and the remainder were dismissed for various causes or failed of indictment.

In a letter accompanying his submission of estimates for the coming year, which is appended as one of the documents affecting the estimates, the chief of inspectors proposes a scheme for the reorganization of the force under him which should have careful attention.

SPECIAL TOPICS.

Postal Laws and Regulations.—By the act of March 30, 1886, the Congress provided for the publication of a new edition of the Postal Laws and Regulations. The edition of 1879 was exhausted and its provisions had become so much changed by subsequent enactments and rulings as to be an insecure, and sometimes misleading, instructor of postal officials. The analytical arrangement was unsatisfactory and, upon studious examination, it was apparent that an entire and thorough reconstruction of the plan and revision of the text were demanded of any just and faithful attempt to discharge the duty imposed. No provision had been made by the act for such an undertaking. Although for the preparation of the edition of 1879 \$2,000 had been appropriated, the late act directed that no extra compensation should be allowed to any officer or clerk for his services about the work. Under these circumstances, the Assistant Attorney-General has contributed his services for many months in addition to the punctual performance of all the duties of his office, daily protracting labor until a late hour of the night. This toil was not imposed upon him by law, nor contemplated in any assignment of duty hitherto made by the Department, but was given patriotically, from desire to render a good service to the public, and in personal assistance to him upon whom the task was incumbent. I record the facts as a testimony to his worth of character and in grateful acknowledgment, officially and personally, of the obligation due to his merits and services.

The preparatory labor consisted of the painstaking collection of the fragmentary statutes affecting the Department and postal service scattered through the general revision, subsequent enactments and acts of appropriation, and of the regulations, general orders, and rulings of the Department from its publications, journals of records, and correspondence, and their provisional arrangement for study.

This was followed by effort to correctly analyze the entire subject and so to frame the structure that the whole should possess natural and perspicuous arrangement, with such divisions and subdivisions that every distinct rule should be provided with its proper place and be found in it. It was deemed of prime importance to a clear comprehension of

its requirements by the officials to be subject to this code, that each chapter should contain only, and should exhaust, the law and regulations pertaining to the subject of it, and that each sub-chapter and section should be equally complete in its presentation of the appropriate minor topic assigned to it. Such arrangement tends to remove incongruous and inconsistent provisions and to relieve the difficulty of apprehending the theory and details of the system to a very great degree. The work proved to be, upon closely engaging with it, so much beyond anticipation, and the desirability of its completion in time to become operative during the first quarter of the fiscal year so urgent, that some failure to attain the aim may exist which a more protracted labor might have relieved. Its aim is, however, sufficiently clear to render such shortcomings of moderate harm, and repeated and severe reviews were applied in the effort to prevent them and accomplish as far as possible the execution of the purpose mentioned.

This code is divided into two parts, corresponding with the underlying but not distinctly expressed theory of the statutes which distinguishes the Department as an arm of the General Government, maintained out of the General Treasury, and whose cost is a Treasury account, from the postal service, as a distinct machinery of business wielded by that arm, with separate and peculiar methods of its own, and an independent fiscal system by which its revenues are gathered and applied to its maintenance, in aid of which the General Treasury acts only as a depository, except as the final results of its operations are brought into the Treasury accounts. Accordingly, part first relates to the Department proper, its organization, official duties, financial maintenance, and accounts with the Treasury, and the laws which pertain to it in this character; and a single title in three chapters is sufficient to embrace the provisions which pertain to and govern this subject. The second part deals with the postal service, and is divided into eight titles. The first (being the second of the book) contains the laws and regulations which pertain to its independent fiscal system, provide for its revenues and expenditures and the methods of conducting and accounting for its varied transactions. The third presents the laws and regulations for the classification of mail matter and its rating for postages, with addition of the functions of the Dead-Letter Office. The fourth title is devoted to post-offices and postmasters, exhibiting the provisions for the establishment and discontinuance of post-offices, the appointment and qualification of postmasters, the compensation, allowances, and supplies, the organization and functions of post-offices, and the duties of the officials employed in them in all their relations to postal affairs. The fifth title comprehends what relates to the transportation of the mails in all respects, except such as relates to the railway mail service by postal clerks, which constitutes an independent title, the sixth of the volume. The registry system and the money-order system are each treated independently as the subjects of the next

two titles, and the laws relating to crimes affecting the postal service form the final division of the work. The disposition of the chapters within these titles and the arrangement of their sections seek to follow the natural order of presentment appropriate to the matters severally contained.

To every part of the work I have given personal labor and study, and have enjoyed the assistance of those officials of the service best equipped by experience and knowledge to aid its correct execution. This authorized some desirable changes, the expediency of which was so developed. The most important of these has been already discussed—the substitution of an improved system for keeping and rendering accounts by postmasters. Some changes were made in the distribution of duties in the Department, with a view to a more systematical and efficient adjustment. In many instances the regulations have been rewritten, with advantage of condensation and greater perspicuity. The rules for treatment of foreign mail matter have been deduced from the existing conventions, and expressed in phraseology more conveniently to be understood by postal officials generally than that usually employed in such instruments. These conventions are therefore withdrawn from the general body of the Laws and Regulations, where they served with very unsatisfactory results. Their interpretation is incumbent properly on the Department, and can not be left without disadvantage to the various post-offices.

The observation and study bestowed reveal the desirability, almost necessity, of a thorough and sensible codification of the legislation affecting the service. One statute now frequently so overlaps and qualifies another, that it is with difficulty the will of the legislature is taken from the written law, and obvious defects exist in many instances. The necessity for literal reproduction in this book of the enactments as they are has operated to make some parts more open to misapprehension than it is desirable such a work should be. When some legislation which must have independent Congressional action shall have been enacted, touching subjects already discussed in this report, it will be possible to codify the postal laws in such form as to afford promise of reasonable permanency and prove of great utility.

Exterior Marks on Mail Matter.—The following sections of the act of 1879 relate to the writing, printing, and other marks which may be placed upon or accompany mail matter of the second, third, or fourth classes :

SEC. 22. That mailable matter of the second class shall contain no writing, print, mark, or sign thereon or therein in addition to the original print, except as herein provided, to wit, the name and address of the person to whom the matter shall be sent, and index figures of subscription book, either written or printed, the printed title of the publication, the printed name and address of the publisher or sender of the same, and written or printed words or figures, or both, indicating the date on which the subscription to such matter will end. Upon matter of the third class, or upon the wrapper inclosing the same, the sender may write his own name or address thereon, with the word "from" above and preceding the same, and in either case may make simple marks intended to designate a word or passage of the text to which

It is desired to call attention. There may be placed upon the cover or blank leaves of any book or any printed matter of the third class a simple manuscript dedication or inscription that does not partake of the nature of a personal correspondence. Upon any package of matter of the fourth class the sender may write or print his own name and address, preceded by the word "from," and there may also be written or printed the number and names of the articles inclosed; and the sender thereof may write or print upon or attach to any such articles, by tag or label, a mark, number, name, or letter for the purpose of identification.

SEC. 23. That matter of the second, third, or fourth class containing any writing or printing other than indicated in the preceding section, or made in the manner other than therein indicated, shall not be delivered except upon the payment of postage for matter of the first class, deducting therefrom any amount which may have been prepaid by stamps affixed to such matter, and any person who shall conceal or inclose any matter of a higher class, and deposit, or cause the same to be deposited, for conveyance by mail, at a less rate than would be charged for both such higher and lower class matter, shall, for every such offense, be liable to a penalty of ten dollars: *Provided, however,* That nothing herein contained shall be so construed as to prevent publishers of the second class and news agents from inclosing in their publications bills, receipts, and orders for subscription thereto; but such bills, receipts, and orders shall be in such form as to convey no other information than the name, location, and subscription price of the publication or publications to which they refer.

These sections have remained in force since their enactment, and have never been qualified, so far as I am able to discover, by any regulation or ruling of the Department. It is almost needless to add that no regulation or ruling could properly attempt to alter them, or dispense with obedience to them on the part of postal officials or the public. Necessarily, they were embraced in the new edition of the Laws and Regulations, the several provisions being placed in appropriate connection with other rules relating to the respective classes of mail matter. All postmasters and postal officials were enjoined to familiarize themselves with the regulations, and special directions were given—for the proper protection of the revenue and the equal administration of the law—to examine all mail matter as provided by the statute and collect the rates of postage required by it; also, to report cases of violation of the statutes against the fraudulent transmission of matter of a higher class under the rates provided for a lower class.

The statute is minute and plain in its terms, and little room for interpretation is afforded by any ambiguity in phrase or application.

Matter of the second class which is entitled to the pound rate consists of newspapers and periodicals sent from offices of publication, or by news agents, for distribution to subscribers or for sale. To aid this form of disseminating intelligence, the cheap rate of 1 cent per pound only is required under such circumstances. When otherwise transmitted, matter of this class must pay at the rate of 1 cent for 4 ounces; and when the publisher deposits it at a free-delivery office for distribution by carriers, another rate is imposed.

Matter of the third class comprises books, circulars, printed matter, proof-sheets, and accompanying manuscript copy, and is taxed at the rate of 1 cent for 2 ounces, or 8 cents for the full pound.

Matter of the fourth class is all such as is admissible to the mails and not within the other classes, chiefly goods and merchandise and samples of goods, and is charged with 1 cent per ounce, or 16 cents for a full pound.

In the application of the quoted sections to these classes it is seen that the revenue might be unjustly impaired, and that it would constitute an abuse of a special privilege given for a public and not a private object if advertisements or communications of any sort were permitted to accompany in any way or form, inside or outside the wrapper, the privileged newspaper or periodical required to be transmitted as originally published. The statute descends to the minutest particulars of definition, therefore, of the additions which may be permitted, and declares that beyond such clearly defined allowances such matter "shall contain no writing, print, mark, or sign *thereon or therein* in addition to the original print." Assuredly, this is a case for literal obedience, since the minute letter has received such legislative attention; a conclusion strengthened by subsequent amendments in similar detail, one of which was specially enacted to provide that "any article or item in any newspaper or other publication may be marked for observation, *except by written or printed words*, without increase of postage.

But it is not for the benefit of the revenue to prohibit the inclosure with matter of the fourth class of any circular or other third-class matter, because it would in that form pay double the rate of postage chargeable upon it if sent independently; nor is there any satisfactory reason to suppose it could have been the purpose of Congress to prohibit the printing which invariably accompanies some articles of merchandise frequently transmitted by mail, in the nature of directions for use and advertisements, notwithstanding the twenty-third section of the act forbids such matter as "contains" any writing or *printing* except as previously indicated. The statute appears aimed in part against the contents of either a third or fourth class parcel to the extent of forbidding any *written* communication, by so much as a word even, but is *in terms* directed against the wrapper of third-class matter and the exterior of the fourth-class package.

The regulation touching fourth-class matter therefore permitted the inclosure of printed matter in such a package, and directed the attention of postmasters to the statute as specially applicable to the exterior.

It was not known or suspected at the Department that disregard of this statute had become general by postmasters or the public; nor was that evil in contemplation in the preparation of the regulations. The statute was published as part of the law, and a regulation added with a liberal explanatory interpretation of its meaning on the only apparently doubtful point. It transpired that in an infinite variety of forms senders of third and fourth class matter have been accustomed to transcend the statutory boundary, and postmasters, desirous to discharge their duty and abide by the statute—which seems to have come upon

them as a sudden revelation, doubtless from the lack of a suitable book of regulations and the pre-existing confusion of regulations and rulings generally—but without any other direction from the Department, everywhere began to enforce the law and to exclude matter in envelopes or wrappers which carried forbidden printing. It appears that envelopes have been frequently printed by those who habitually send circulars or merchandise samples, with advertisements ranging from simple additions to the sender's name descriptive of his business pursuits, to very elaborate representations, sometimes pictorially illustrated; and that wrappers of merchandise samples occasionally bore printed communications as explicit in direction as could be desirable in a written personal communication to accompany them, and such as would dispense with necessity for any other first-class correspondence in that connection.

The suspension of the use of these prepared envelopes and wrappers rendered them temporarily valueless for their objects, and caused much annoyance and irritation with those who had been in the practice of using them. Appeals from postmasters to the Department have presented almost every aspect of these cases. Some are exceedingly trivial in so far as real importance attaches to the added matter, but many are obviously abuses, and between the two extremes the range of transgression extends over innumerable different instances. The majority of wrappers appear very harmless, and no injury to the revenue or the service can be likely to result from their use. With few exceptions all would have been admitted if any rightful power to dispense with the statute were vested in the Department. The want of it has been somewhat painful, because it would have relieved substantially all complaint could the use of only such envelopes and wrappers as had been already prepared have been authorized, the public generally manifesting no unwillingness to comply with the requirements of the law. No such authority could be discovered, nor any line be drawn other than that drawn by the explicit statute, and the Department has been compelled to inaction, except to relieve from penalties in some proper cases.

The law appears to go upon the theory that advertisements ought not to be permitted upon third or fourth class parcels. I am not able to discern any sound objection to this privilege, if the advertisement be so limited as to leave a sufficient space for the address, for post-marking and rating, and for reforwarding or return addresses. Such printing adds nothing of burden to the mails, and cannot be thought to limit their employment otherwise. More probably it increases it.

The statutory classification of mail matter is not unsatisfactory, and can be but little, if at all, improved. Probably no relaxation of the guards over second-class matter is desirable. But removal of the prohibition against reasonable advertising and printing on the wrappers of third and fourth-class matter, so that they do not extend to communications of the nature of correspondence, would appear to be due to

the business interests and convenience of the public, and is earnestly recommended.

The Post-Office at Washington is in a building insufficient for its proper requirements, although conveniently located, and no continuing lease exists. The proprietor has demanded a higher rent, which does not appear to be reasonable. But the law forbids the Department to rent a building in the District, except in pursuance of special enactment; and serious inconvenience might result from these conditions. Some action by the Congress ought not to be delayed.

THE DEPARTMENT.

The disposition of the moneys appropriated from the Treasury for the maintenance of the Department, its officers, clerks, and employes, with its additional buildings and its publications of post-route maps and the Official Guide, during the year past, is shown in the following table, which embraces for comparison the like figures of the two preceding years:

Appropriations, expenditures, and unexpended balances of appropriations for objects pertaining to the care of the Post-Office Department building, for the conduct of the departmental service, and for salaries of officers and employes of the Department; also amount and rate of decrease of expenditures for 1887 as compared with 1886 and 1885.

Items.	Year ended June 30, 1887.			
	Appropriations.	Expenditures.	Balances unexpended.	
			Amount.	Per cent.
Stationery.....	\$13,000.00	\$7,470.02	\$5,529.98	42.53
Fuel, etc.....	8,000.00	6,711.95	1,288.05	16.10
Gas.....	6,200.00	3,996.40	2,203.60	35.54
Plumbing and gas fixtures.....	3,000.00	1,792.23	1,207.77	40.25
Telegraphing.....	3,500.00	1,989.46	1,510.54	43.15
Painting.....	4,000.00	2,859.71	1,140.29	28.50
Carpets and matting.....	4,000.00	2,496.86	1,503.14	37.57
Furniture.....	6,000.00	2,068.58	3,931.42	65.52
Keeping horses, etc.....	1,500.00	1,152.80	347.20	23.51
Hardware.....	1,700.00	776.23	923.77	54.33
Miscellaneous items.....	13,000.00	8,376.76	4,623.24	35.56
Rent:				
Topographers.....	1,500.00	1,500.00		
Money-Order building.....	8,000.00	8,000.00		
Additional building for Auditor's office.....	4,500.00	4,500.00		
Official Postal Guides.....	18,000.00	17,873.42	126.58	7.00
Post-route maps.....	*15,000.00	16,631.69	539.11	3.13
Realized from sale of post-route maps.....	*2,171.00			
Foreign postage.....	500.00	377.50	122.50	24.50
Total of items pertaining to care of building, etc.....	113,571.00	88,573.81	24,997.19	22.01
Salaries of officers and employes of the Post-Office Department.....	719,040.00	704,435.00	14,605.00	2.03
Total of all the above.....	832,611.00	793,008.81	39,602.19	4.75

* By law credited as a further appropriation.

REPORT OF THE POSTMASTER-GENERAL.

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Appropriations, expenditures, and unexpended balances of appropriations, etc.—Continued.

Items.	Year ended June 30, 1885.				Decrease of expenditures of 1886 as compared with 1885.	
	Appropriations.	Expenditures.	Balances unexpended.		Amount.	Per cent.
			Amount.	Per cent.		
Stationery	\$9,000.00	\$8,913.30	\$86.70	.96	\$2,564.30	28.75
Fuel, etc.	7,200.00	7,032.07	167.93	2.33	214.73	3.05
Fuel, etc., additional building	6,600.00	5,331.94	1,268.06	19.2	398.83	7.48
Gas	4,700.00	4,692.49	7.51	.16	1,058.19	22.5
Gas, additional building	5,900.00	2,880.93	3,019.07	51.1	560.14	19.44
Plumbing and gas fixtures	4,700.00	4,662.22	37.78	.8	2,251.66	48.3
Telegraphing	5,900.00	5,376.61	523.39	8.8	1,806.01	33.59
Painting	7,500.00	6,340.02	1,159.98	15.4	4,973.31	78.44
Carpets and matting	1,500.00	1,064.51	435.49	29	76.54	7.1
Furniture	1,700.00	1,601.22	98.78	5.8	1,066.41	66.5
Furniture, additional building	13,500.00	13,500.00			2,602.07	19.27
Keeping horses, etc.	1,500.00	1,500.00				
Hardware	8,000.00	8,000.00				
Miscellaneous items	1,500.00	1,500.00				
Miscellaneous items, additional building	8,000.00	8,000.00				
Rent, topographers	29,000.00	26,421.69	2,578.31	8.89	12,713.09	48.1
Rent, Money-Order building	20,000.00					
Rent, additional building	†1,219.15	21,064.25	154.90	.73	4,074.21	19.94
Official Postal Guides						
Post-route maps						
Realized from sale of post-route maps						
Foreign postage						
Free penalty envelopes						
Total of items pertaining to care of Department, etc.	127,919.15	118,881.25	9,537.90	7.45	27,287.00	23.05
Salaries of officers and employes of Post-Office Department	696,480.00	690,267.62	6,212.38	.89	*7,407.88	*1.07
Total of all the above	824,399.15	808,648.87	15,750.28	1.9	19,879.12	2.45

Items.	Year ended June 30, 1886.				Decrease of expenditures of 1887 as compared with 1886.	
	Appropriations.	Expenditures.	Balances unexpended.		Amount.	Per cent.
			Amount.	Per cent.		
Stationery	\$9,000.00	\$6,349.00	\$2,651.00	29.45	\$*12.87	5.23
Fuel, etc.	7,200.00	6,817.34	382.66	5.31		
Fuel, etc., additional building.....	1,300.00	436.60	863.40	66.4	541.99	7.47
Gas	6,600.00	4,933.11	1,666.89	25.25		
Gas, additional building	400.00	400.00			1,336.71	25.64
Plumbing and gas fixtures	4,700.00	3,634.36	1,065.70	22.6	1,842.13	50.71
Telegraphing	5,000.00	2,320.79	2,679.21	53.58	331.33	14.27
Painting	4,700.00	2,407.56	2,292.44	48.7	452.15	15.81
Carpets and matting	5,900.00	3,570.60	2,329.40	39.14	1,073.74	30.07
Furniture	7,500.00	1,366.71	6,133.29	81.77	*684.87	33.10
Furniture, additional building	500.00	17.00	483.00	96.6		
Keeping horses, etc.	1,500.00	987.97	512.03	34.1	*164.83	14.29
Hardware	1,700.00	534.81	1,165.19	68.5	*241.42	31.10
Miscellaneous items	13,000.00	10,897.93	2,102.07	16.16		
Miscellaneous items, additional building	500.00	114.50	385.50	77.1	2,635.67	23.93
Rent, topographers	1,500.00	1,500.00				
Rent, Money-Order building	8,000.00	8,000.00				
Rent, additional building	4,500.00	4,125.00	375.00	8.3	*375.00	8.33
Official Postal Guides	29,000.00	13,708.00	15,291.40	52.7	*4,164.82	28.30
Post-route maps	20,000.00					0.6
Realized from sale of post-route maps	12,252.00	16,990.04	5,261.96	23.73	385.15	2.10
Foreign postage	500.00	448.50	51.50	10.3	71.00	15.83
Free penalty envelopes.....	8,600.00	1,333.89	2,066.11	57.3		
Total of items pertaining to care of Department, etc.	138,852.00	91,094.25	47,757.75	34.39	2,520.44	2.76
Salaries of officers and employes of Post-Office Department.....	715,120.00	697,675.50	17,444.50	2.4	*6,759.50	.94
Total of all the above.....	853,972.00	788,769.75	65,202.25	7.63	*4,239.06	.53

* Increase.

† By law credited as a further appropriation.

The Department building has been freshly painted, its gas pipes and much of its plumbing renewed, and all requisite furniture supplied for much less than the appropriations, within the two years last passed, and its good condition reflects credit on the superintendent and his force.

Mention has been repeatedly made of the necessity for its enlargement. Three additional buildings are now rented of private parties, and neither is fire-proof. The destruction of either would entail much inconvenience and probable loss of important books and papers, but especially the burning of Marini's Hall, or the building on the corner of eighth and E streets. So often has the subject been pressed that nothing more is purposed now than not to omit the duty of recalling attention to its circumstances upon the occurrence of a new opportunity.

The Library is the name which has been misapplied for a long period to a mass of books stored in a lower room of the Department in such unrelievable disorder as to be of small practical value. Yet it can require but little knowledge of postal affairs to realize the value of a suitable library in fact, specially devoted to the literature which pertains to the service, or is calculated to assist in the proper understanding and disposition of the problems which arise in the Department. Books upon postal topics are continually printed in every civilized country, and the mere fact is a proof that they contain information of value. Of cognate character and utility, would be a museum for the preservation of the various implements, appliances, devices, specimens of stamps and stamped paper, and other products of ingenuity, skill, and art illustrative of the history of the postal service in this country and the world, or designed for its improvement. To suggest the proposal to an informed and thoughtful mind is enough to commend it, and the opportunity does not serve for more elaborate discussion for the benefit of others.

The act of March 3, 1885, having enabled an additional building to be rented, every effort was made to secure as much space as possible, and with such favorable result that the Department became sufficiently relieved to enable the placing of the library in a somewhat better, though very insufficient, apartment. This has been fitted with shelves, and some arrangement and order secured, and such steps as were within my authority have been taken to give an air of germination to the seedling, in the hope that it may secure the beneficent attention of Congress, so that, when the Department shall be rebuilt, suitable rooms will be planned and constructed to afford this most desirable establishment. Meantime a small annual appropriation, perhaps \$500 or even less, might be profitably employed in securing works which at a later day may become unpurchasable.

The Official Postal Guide formed the subject of a lengthy discussion in the last report, with a history of its publication and the extravagant outlays made therefor. It was urged that authority should

be given to contract for its publication for a continuing term of years, as a measure of economy and stability. I wish to renew the recommendation. The statistics and the argument were then presented so fully that renewed discussion would be repetition. The contract for the current year is less favorable than might have been secured had the desired authority been granted.

The Money-Order Building, so called, was leased for a term which expired with the 1st of October last. No other authority for any renewal of the lease was given than the appropriation of the annual rental for the entire fiscal year. No new lease has been arranged, but the Department holds over for the residue of the fiscal year to await such directions as Congress shall give. The building, though as fairly suitable for the uses as could be perhaps expected of a rented structure, furnishes but little more space for clerical use, and not as much of all kinds, as Marini's Hall, rented at a lower rate. Some additional provision should be made by the owners to bring it to the condition fairly to be required; which being done, it appears desirable, especially because of its convenient contiguity, to rent it from year to year until the Government shall enlarge or rebuild the Department.

A Fourth Assistant Postmaster-General becomes with every year a more desirable addition to the official force of the Department. The care of post-offices requires the assistance of such an officer. This must be conceded by any one who will inquire into the subjects of which some discussion has already been presented. I respectfully invite a fresh consideration of what has been submitted in former reports in support of the recommendation. Should the suggestions hereinbefore made in favor of post-office buildings lead to their construction by the Government, the duties of such an officer would naturally comprehend that subject, as well as the supplies and allowances of post-offices. The appointments, the correspondence for instruction of postmasters and others, and the free-delivery service will demand all the labor, exhaustively, of any First Assistant.

The Salaries of many of the officers of the Department are grossly inadequate and unfair. It is in every point of view unwise to inflict on men of whom great labor and responsibility are demanded the sense of injustice in their compensation. The difference between high devotion and care in the performance of duty and the mere ordinary discharge of functions without special zeal for the interest of the Government will, in pecuniary effect only, result in gain or loss to an amount many times greater than his salary in the case of nearly every division chief in this Department. To illustrate this, compare the contingent expenditures of the last and the previous year with the same items before. For 1885 \$118,381.25 were expended, while for 1886 \$91,094.25, and for 1887 \$88,573.81 were sufficient to cover the same charges and also pay \$4,500 annually for rent of another building and keep it supplied. Yet

the officers whose zeal and efficiency show such results are seriously underpaid, while others in the service of the Government, whose duties are by no means more responsible, receive much higher compensation.

In the estimates for the coming year an increase of salaries, amounting in all to \$3,800, is asked. It will illustrate the reasons for all to mention one, the superintendent of the Department buildings and disbursing clerk, to whose excellent service much of the saving in Department expenditures and its excellent condition are due. He gives bond in the sum of \$40,000, disburses annually \$800,000, has charge of nearly one hundred men, cares for the Department and three additional buildings, and ought to receive not less than \$3,000 salary, while he is paid but \$2,100. An increase of \$500 is asked in the salary of the chief clerk, the chief of post-office inspectors, the superintendent of the division of post-office supplies, the superintendent of railway adjustments, and the chief of the finance division; of \$300 in that of the chief of the salary and allowance division; of \$250 in that of the chief of the stamp division and the superintendent of the Dead-Letter Office; of \$200 for chief clerk of the Dead-Letter Office; of \$200 for engineer in the additional buildings. These additions would give the chief of inspectors \$3,500, the chief clerk \$3,000, and the chiefs and superintendents of divisions named \$2,500 each. The entire additional sum is not half of the saving effected in the contingent expenses of the Department last year. Were the postal service a private business no wiser first step could be taken. Justice and wisdom favor these moderate and suitable provisions, and it is to be sincerely hoped they may be made. The superintendent of the Railway Mail Service ought to be paid a much higher salary, because that officer must be of a class of men who command much better compensation by railroad corporations, and an assistant should be provided, with at least the superintendent's present salary.

I am very sure they to whom the following words are most due will recognize their thorough sincerity, however custom may give them a perfunctory appearance to others. And I should do violence to a deep feeling were I to omit to commend to you as worthy of the warm approbation of all good citizens who honor their faithful servants for deserving service, the officers, clerks, and employes of this Department. With the friendliest personal co-operation and patriotic zeal, free from the slightest interruption by any untoward sentiment, the officers of the Department have striven to carry forward all its attempts to benefit the service in its charge and have made my labor with them as agreeable as without them it would have been unprofitable. The clerks have been, with hardly an exception, diligent in duty, admirable in conduct, and as zealous for the success and good name of the Department as if it were a personal charge. The inspectors, though widely scattered, have maintained a constant interest in the common affairs, and contributed faithfully to strengthen and perfect the discipline and use-

ss of the service. There have been but few instances among all public servants of reprehensible conduct, and the reprehension our associates has pursued with severe judgment every fault which t stain the Department's good report. In this spirit of fellowship vance the public interests committed to our charge are to be found prings of whatever measure of success has followed our exertions, this is equally the pride and reward of all.

WILLIAM F. VILAS,
Postmaster General,

e PRESIDENT.

P A P E R S

ACCOMPANYING

THE REPORT OF THE POSTMASTER-GENERAL

REPORT OF THE FIRST ASSISTANT POSTMASTER-GENERAL.

POST-OFFICE DEPARTMENT,
OFFICE OF THE FIRST ASSISTANT POSTMASTER-GENERAL,
Washington, D. C., October 29, 1887.

SIR: I have the honor to submit the following report of the work of this Bureau for the year ended June 30, 1887:

APPOINTMENT DIVISION.

Statement showing the number of post-offices established and discontinued, the number of postmasters appointed, and the increase or decrease as compared with the previous year.

Post-offices.	June 30, 1886.	June 30, 1887.	Increase.	Decrease.
Number of post-offices established during the year.....	3,482	3,043	-----	439
Number of post-offices discontinued.....	1,120	1,500	380	-----
Net increase over previous year.....	2,362	1,543	-----	819
Whole number of post-offices.....	53,614	55,157	1,543	-----
Number filled by appointment of the President.....	2,244	2,336	92	-----
Number filled by appointment of the Postmaster-General.....	51,370	52,821	1,451	-----

Appointments during the year.

Appointments.	June 30, 1886.	June 30, 1887.	Increase.	Decrease.
On resignations and commissions expired.....	9,112	6,863	-----	2,249
On removals and suspensions.....	9,566	2,584	-----	6,982
On deaths of postmasters.....	587	589	2	-----
On establishment of new post-offices.....	3,482	3,043	-----	439
Total.....	22,747	13,079	2	9,678

Total number of appointments during the year.....	13,079
Number of post-offices discontinued.....	1,500
Names and sites changed with retention of incumbents.....	696

Total number of cases acted upon during the year..... 15,275

It will be seen from the above statement that the number of post-offices established during the past fiscal year was 3,043, a decrease of 439 as compared with the number established the previous year, and that the number of offices discontinued was 1,500, an increase of 380 over the number discontinued during the year ended June 30, 1886.

The increase in the whole number of post-offices was, therefore, smaller than for the previous year, having been only 1,543, as compared with 2,362 for the year ended June 30, 1886.

The increase and decrease in the number of offices, arranged by sections, States, and Territories, were as follows:

	Increase.	Decrease.	Net increase for 1887.	Net increase for previous year.
<i>New England States.</i>				
Maine	17			
New Hampshire.....	2			
Vermont				
Massachusetts	16			
Rhode Island	2			
Connecticut	8			
Total	45		45	50
<i>Middle States and District of Columbia.</i>				
New York	33			
New Jersey	7			
Delaware	4			
Maryland	30			
District of Columbia	1			
Pennsylvania	118			
Total	202		202	261
<i>Southern States and Indian Territory.</i>				
Virginia	74			
West Virginia	73			
North Carolina	53			
South Carolina	48			
Georgia	92			
Florida	29			
Alabama	81			
Mississippi	50			
Louisiana	36			
Texas	77			
Arkansas	53			
Missouri	59			
Tennessee	35			
Kentucky	54			
Indian Territory	15			
Total	785		785	1,444
<i>The three States and Territories of the Pacific slope.</i>				
Oregon	32			
California	40			
Nevada		8		
Washington	41			
Arizona	10			
Alaska				
Total	123	8	115	106
<i>The ten States and six Territories of the West and Northwest.</i>				
Ohio	71			
Indiana	43			
Michigan	26			
Illinois	37			
Wisconsin	22			
Iowa	5			
Minnesota	36			
Kansas	40			
Nebraska	3			
Colorado	8			
Dakota	39			
New Mexico	4			
Montana	10			
Wyoming	26			
Idaho	10			
Utah	7			
Total	396		396	561

The largest increase in the number of offices in any of the States and Territories during the year was as follows: Pennsylvania, 118; Georgia, 92; Texas, 77; and Virginia, 74.

There was a decrease in the number of offices in but one State—in Nevada.

There were seven States which, on the 30th of June, contained more than 2,000 offices each, as follows: Pennsylvania, 4,119; New York, 3,248; Ohio, 2,834; Virginia, 2,355; Illinois, 2,266; Missouri, 2,117; and North Carolina, 2,110, making altogether considerably more than one-third of the whole number of offices in the United States.

As a result of the annual adjustment of postmasters' salaries, which took effect July 1, 1887, 22 offices of the third class were reduced to the fourth class, and 2 offices of the fourth class were assigned to the third class, leaving 2,336 Presidential offices in operation at the beginning of the present fiscal year, an increase of 92 over the number reported the previous year. Divided into classes the numbers are as follows: First, 82; second, 435; and third, 1,819.

The number of money-order offices in operation June 30, 1887, was 7,745, an increase of 481 over the number reported the previous year. Of the whole number of this class 610 were in Illinois, 548 in Iowa, 520 in New York, 493 in Ohio, 430 in Pennsylvania, 405 in Kansas, 362 in Michigan, 343 in Missouri, and 326 in Indiana. The largest increase in any State during the fiscal year was 64 in Kansas.

The number of postmasters appointed during the year was 13,079.

The total number of cases acted upon, embracing discontinuances and names and sites changed with retention of incumbents was 15,275. The number of appointments made to fill vacancies caused by deaths of postmasters was 589.

For further information relative to the establishment, discontinuance, and change of names and sites of post-offices and the appointment of postmasters reference is made to tables marked A, B, and C appended to this report.

BOND DIVISION.

To the bond division belongs the work of recording the appointments of all postmasters, the establishment, discontinuance, and changes of names and sites of post-offices, and the preparation and transmission of the necessary letters of appointment, together with blank bonds and oaths to be executed by newly appointed postmasters.

The aggregate of the business transacted during the past fiscal year ending June 30 last shows, in several items, quite a large decline from that of the previous fiscal year. The most marked is the falling off in the number of new bonds and the work connected therewith. The number of new bonds received and accepted during the fiscal year ending June 30, 1886, was 14,063; whereas during the fiscal year ending June 30 last they had declined to 3,277.

By your order of May 21, 1885, old bonds, which had run five years or over, were to be replaced by new ones. So generally had your order been complied with during the fiscal year ending June 30, 1886, that there remained comparatively but a few in number to be received during the fiscal year last past. This will explain the large diminution referred to.

As often as three times each year bonds are carefully examined, and if any are found whose date reaches the limit, new bonds are made and mailed for execution that they may displace the old ones.

The number of employes in the bond division during the fiscal year ending June 30 last has been reduced by five.

The work of the division can, it is believed, be successfully transacted by a still further reduction of two persons.

The following is a statement of the transactions of this division during the past fiscal year:

A statement of the operations of the bond division for the fiscal year ended June 30, 1887.

Number of Presidential cases recorded and upon which appointment papers, bonds, etc., were mailed	1, 140
Number of cases of the fourth class recorded and upon which appointment papers, bonds, etc., were mailed	14, 135
Number of appointment bonds examined, indorsed, and submitted to the Postmaster-General for approval	12, 273
Number of bonds returned for correction	3, 697
Number of appointment bonds filed	12, 273
Number of new bonds required under the Postmaster-General's order of May 21, 1885	3, 277
Number of new bonds required upon request of surety to be released	607
Number of new bonds required at the instance of the Third Assistant Postmaster-General	252
Number of new bonds required upon recommendations of post-office inspectors	183
Number of new bonds required in consequence of the extension of the money-order business	472
Number of new bonds required in consequence of the establishment of the postal-note business	384
Number of new bonds sent upon requests from postmasters	654
Total number of new bonds required	5, 829
Number of new bonds received, examined, indorsed, and submitted to the Postmaster-General for acceptance	5, 182
Number of new bonds reported to the Third Assistant Postmaster-General	682
Number of new bonds reported to the Auditor	5, 182
Number of bonds reported to the Money-Order Office	932
Number of new bonds filed	5, 182
Number of jackets prepared in sending new bonds	5, 829
Number of commissions prepared and mailed to postmasters	12, 313
Number of commissioned postmasters reported to the Auditor	12, 273
Number of commissioned postmasters reported to the Third Assistant Postmaster-General	12, 273
Number of commissioned postmasters reported for publication in the Postal Bulletin	12, 273
Number of commissioned postmasters reported to the Money-Order Office	2, 036
Number of blank designations and oaths mailed to acting postmasters	603
Number of designations and oaths of acting postmasters received, examined, indorsed, recorded, and filed	428
Number of acting postmasters reported to the Auditor	428
Number of circular letters sent on appointments, establishments, changes of names and sites, and discontinuances of post-offices	28, 270
Number of circulars sent with new bonds	10, 976
Number of circular letters relating to terms of service of postmasters sent	487
Number of circulars sent to appointees delinquent in the execution of their bonds	1, 783
Number of circular letters accompanying bonds returned for correction	3, 697
Number of circulars accompanying commissions sent to postmasters	12, 273
Number of surety circulars sent to chief post-office inspector	3, 086
Number of circulars sent to postmasters delinquent in furnishing new bonds	1, 702
Number of circular letters sent notifying sureties of death of postmasters	603
Number of manuscript letters written	4, 144
Number of post-office inspector's reports on responsibility of sureties received, examined, and filed	2, 976
Number of blank oaths for assistant postmasters, clerks, and employes mailed	40, 137
Number of oaths of assistant postmasters, clerks, and employes received, examined, indorsed, and filed	31, 300
Number of establishments, discontinuances, and changes of names and sites of post-offices reported to the Second Assistant Postmaster-General	5, 782
Number of establishments, discontinuances, and changes of names and sites of post-offices reported to the Third Assistant Postmaster-General	4, 815
Number of establishments, discontinuances, and changes of names and sites of post-offices reported to the equipment division	4, 815

Number of new offices reported to the division of post-office supplies.....	2,918
Number of discontinuances reported to the Auditor	1,338
Number of entries made on the books of the division	70,038
Number of current records in use	36
Number of blank forms in use	75

DIVISION OF CORRESPONDENCE.

This division has charge of the miscellaneous correspondence of the Department; instructions to postmasters in regard to the discharge of their duties; the construction of the postal laws and regulations; the adjustment of controversies between postmasters and the public, and the classification of mail matter.

The following is a summary of the work performed during the fiscal year ended June 30, 1887:

Number of letters written to postmasters and private individuals, involving the construction of postal laws and regulations	15,630
Number of telegrams sent in reply to communications requiring the immediate action of the Department.....	68
Number of newspaper and periodical publications claiming the right of admission to the mails as second-class matter examined and accepted....	3,925
Number of newspaper and periodical publications claiming the right of admission to the mails as second-class matter examined and rejected ...	219
Amount of money collected from publishers of second-class matter for violation of law in mailing third-class matter inclosed with their publications at the second-class rate.....	\$3,122.37

These collections were made through the office of the Third Assistant Postmaster-General, and were the result of decisions made by this division.

DIVISION OF POST-OFFICE SUPPLIES.

This division supplies post-offices of the fourth class with eight-ounce letter-balances, facing-slips, canceling ink, stamping-pads, postmarking, rating, and canceling stamps, 38 forms of blanks, and, if the salary of the postmaster be \$50 per annum or more, with twine and wrapping paper.

Offices of the third class are furnished, in addition to the above, with 31 forms of blanks, 4-pound scales, and, when necessary to weigh second-class matter, 62 and 240 pound scales.

Offices of the first and second classes are furnished, in addition to the above, with test-weights, 600-pound scales when necessary, 18 forms of blanks pertaining to the free-delivery system, and with 77 items of stationery.

The Department proper is furnished with 80 items of stationery, blanks, blank books, labels, records, registers, etc.

WORK DONE BY DIVISION.

The number of requisitions briefed, filled, and filed for the various classes of articles furnished for the fiscal years ended June 30, 1885, June 30, 1886, and June 30, 1887, is shown by the following:

TABLE 1.

Class of articles.	1884-'85.	1885-'86.	1886-'87.
Twine and wrapping paper.....	34,600	29,506	51,337
Marking and rating stamps	17,529	21,537	24,665
Letter balances and scales.....	3,728	3,170	4,122
Blanks and books	101,083	135,289	192,734
Canceling ink and pads.....	(*)	3,150	9,868
Stationery.....	2,700	3,175	4,065
Total.....	162,640	205,827	287,665

* No appropriation.

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The number of packages, registered packages, sacks, and cases of goods sent out for the same period of time is shown by the following:

TABLE 2.

Nature of shipment.	1884-'85.	1885-'86.	1886-'87.
Packages.....	160,000	200,000	266,563
Packages registered.....	535	600	1,008
Sacks.....	11,000	15,557	27,884
Cases.....	427	450	1,600
Total.....	171,962	216,607	297,055

The following table shows quantity of the principal contract articles furnished for the fiscal years ended June 30, 1885, June 30, 1886, and June 30, 1887. Owing to the absence of complete records prior to the present fiscal year, the comparative statement as to articles of stationery, etc., furnished, is incomplete:

TABLE 3.

Articles.	1884-'85.	1885-'86.	1886-'87.
Blanks.....	51,469,447	57,074,302	60,468,900
Books.....	87,107	125,414	112,403
Facing slips.....	65,146,760	120,644,680	193,091,700
Marking, rating and and canceling stamps.....	21,229	13,230	17,560
Cotton twine.....pounds..	130,000	100,000	102,700
Jute twine.....pounds..	500,000	550,000	560,000
Hemp twine.....pounds..	210,000	146,000	115,452
Letter balances and scales.....	3,728	3,070	2,180
Wrapping paper.....reams..	17,313	20,837	21,747
Canceling ink.....pounds..	(*)	11,100	13,575
Inking pads.....	(*)	5,475	10,411
Letter-heads and follow sheets.....			6,715,200
Card blotter.....sheets..			80,160
Card-board.....sheets..			13,309
Scratch blocks.....			11,488
Slide labels.....			506,200
Examination cards.....			295,000
Envelopes.....			1,709,000
Rubber bands.....gross..			3,765
Rubber bands.....pounds..			4,552
Rubber erasers.....			5,287
Pens.....gross..			7,503
Pen-holders.....			63,828
Lead-pencils.....			145,390
Writing inks.....bottles..			13,605
Mucilage.....bottles..			5,053
Mucilage and inkstands.....			5,306
Sponge cups and paper weights.....			2,750
Steel erasers and envelope knives.....			2,762
Shears.....			1,245
Rulers and folders.....			1,588
Carbon and semi-carbon paper.....sheets..			75,780
Rubber stamps.....			1,750
Press-copy books.....			1,075
Copying and blotting pads.....			1,228
Thumb-tacks.....			3,528
Paper-fasteners.....			134,000
Pen-racks.....			12,000
Seal papers.....			13,500
Sealing-wax.....pounds..			8,512
Pins.....boxes..			1,010
Pins.....papers..			8,774
Sponge.....pieces..			5,280

* No appropriation.

The amount of the more important portions of clerical labor performed for the fiscal years ended June 30, 1885, June 30, 1886, and

June 30, 1887, is shown by the following table. Minor duties, though occupying considerable time of the employes, are omitted for the sake of brevity:

TABLE 4.

Work.	1884-'85	1885-'86	1886-'87
Entries of record, wrapping paper and twine	4,300	4,506	5,196
Entries of record, stamps	17,520	16,538	21,758
Entries of record, scales	3,728	3,170	4,122
Entries of record, ink and pads		3,150	3,860
Entries of record, journals		3,744	4,005
Entries of record, ledgers		3,744	4,005
Entries of record, order books		1,212	1,400
Entries of record, itemized accounts			19,296
Entries of Government Printing Office	15,173	15,337	16,470
Entries of record, on sheets			30,320
Accounts kept, itemized			130
Accounts kept, dollars and cents		468	440
Inspection reports			552
Orders on contractors		535	850
Labels and tags written	172,000	216,000	267,000
Letters written	1,842	1,950	4,087
Receipts written	8,800	10,366	12,448
Memo. bills filed			648
Duplicate bills passed			324
Books of record and P. C. books	27	33	46

The appropriation and expenditures for the fiscal years ended June 30, 1885, June 30, 1886, and June 30, 1887, are shown by the following, omitting cents for convenience:

TABLE 5.

	Appropriation, 1884-'85.	Expended, 1884-'85.	Appropriation, 1885-'86.	Expended, 1885-'86.	Appropriation, 1886-'87.	Expended, 1886-'87.
Wrapping paper	\$35,000	\$34,997	\$35,000	\$28,916	\$30,000	\$29,971
Twine	82,277	79,149	85,000	69,632	80,000	68,413
Balances and scales	25,000	17,802	20,000	1,302	10,000	1,045
Ink, pads, and stamps	25,000	10,233	20,000	12,576	30,000	20,836
Stationery, Post-Office Department	9,000	7,756	12,600	8,590	12,600	7,314
Stationery, first and second class offices	65,000	46,914	65,000	41,039	55,000	46,436
Printing, etc.	180,000	169,009	178,612	174,055	180,000	162,400
Total	421,277	365,851	416,212	336,110	397,600	331,730

* An exigency order for 1,500 reams wrapping paper, amounting to \$2,200.95, was made as the appropriation was exhausted.

† Balance reserved by printer as percentage of his current expenses.

The sum of the appropriations for the fiscal year ended June 30, 1887, amounted to \$397,600, and the expenditures were \$331,740.77, about 83 per cent. of the appropriations. This left at the end of fiscal year \$65,859.23 unexpended, in addition to which there was on hand stock amounting, as per inventory, to \$35,120.05.

WRAPPING PAPER.

As shown in Table 5, the appropriation of \$30,000 for wrapping and facing-slip paper was exhausted, and an exigency order for 1,500 reams facing-slip paper was made, amounting to \$2,200.95, the demands of the service requiring that amount to carry the post-offices and railway mail service through the fiscal year. This result was brought about by a

reduction of the appropriation for the fiscal year ended June 30, 1887, of \$5,000; by the demands of the service for a better grade of paper for facing-slips, which was contracted for at an advance of 31 cents per ream as compared with the price paid for the fiscal year ended June 30, 1886; from the increased demand for the slips, they being used to a great extent in the place of wooden tags and card slide-labels, and from the advance in price of an especial manufactured paper. As shown by Table 3, there were furnished to the post-offices and the railway mail service 193,991,700 facing-slips, and 21,747 reams wrapping paper during the fiscal year ended June 30, 1887, as against 120,644,680 facing-slips and 20,837 reams wrapping paper for the previous year. This is an increase of 72,447,020 slips and 910 reams paper. This does not, however, show the whole amount of slips used, as some of the larger post-offices and the divisions of the Railway Mail Service printed their own slips, no report of which is made to the Department. Contracts were made in July, 1886, by which the slips were printed for 4½ cents per thousand, but for the fiscal year ending June 30, 1888, the contract price has been reduced to 4 cents per thousand.

It is estimated that an increase of this appropriation to \$40,000 will be required to meet the demands of the service for the fiscal year ending June 30, 1889.

TWINE.

There was expended from the appropriation of \$80,000 for wrapping twine the sum of \$63,413.47 (see Table 5), leaving to the credit of the appropriation \$16,586.53. The amount of wrapping twine issued for the year ended June 30, 1886, was 836,000 pounds (see Table 3), while the total amount issued for the present fiscal year was 778,152 pounds, a decrease in issue of 57,848 pounds.

This decrease accounts in part for the large balance remaining unexpended. Until the last quarter of the year it was impossible to procure from the contractors jute twine in sufficient quantities to fully supply the requirements of postmasters and the Railway Mail Service; hence this particular twine was issued in small quantities, to the great annoyance of postmasters and division superintendents, and often to the detriment of the service. With the present prompt delivery, the issue of this twine will largely increase, but the substitution of a coarse jute twine at a greatly reduced price for the hemp twine heretofore issued, will materially reduce the cost of twine in general. Taking into consideration, however, the price paid for jute twine, the increased number of pounds likely to be issued and the natural growth of the service, it is not considered prudent to reduce the appropriation.

It is estimated that the sum of \$80,000 will be required to meet the demands for wrapping twine for year ending June 30, 1889.

BALANCES AND SCALES.

Table 5 shows that from the appropriation of \$10,000 for letter balances and scales there has been expended the sum of \$1,043.62, leaving to the credit of the appropriation \$8,956.38. When the contracts were made in July, 1886, as there remained on hand from the previous year's stock 1,755 8-ounce balances, which was considered sufficient to carry the Department through the fiscal year, no contract was made for this item. It was found, however, before the end of the third quarter that the 1,755 balances had been issued; and before the end of the fiscal year orders had accumulated to the number of 903. As it was not thought

advisable to purchase these balances on an exigency order, the accumulated requisitions were held over to be supplied from contract for fiscal year ending June 30, 1888. Had the 903 balances been purchased, the cost of the same amounting to \$2,483.25, it would have reduced the amount remaining to the credit of the appropriation to \$6,473.13. Owing to the inspections ordered for all fourth-class post-offices, the demand for balances and scales has greatly increased. For thirty-nine weeks, from July 1, 1886, to April 1, 1887, the average of orders received was 52 per week, and from April 1, 1887, to September 1, 1887, twenty-one weeks, the average was 80 per week, an increase of 28 per week. As the average of 80 orders for scales per week does not show the full number likely to be received when the inspections are thoroughly organized, it is estimated that 100 orders per week will be nearer the mark. Taking the average price paid for the different scales this year, \$3.74, it is shown that the present appropriation is too small to cover the cost, and should the inspections extend largely into the coming year, which is likely to be the case, the appropriation would have to be materially increased to meet the demands upon it.

It is estimated that an appropriation of \$15,000 will be required to meet the demands of the service for the year ending June 30, 1889.

STAMPS, INK, AND PADS.

The appropriation for stamps, ink, and pads for the year ended June 30, 1887, was \$30,000, and the expenditures were \$20,938.08 (see Table 5), leaving a balance of \$9,061.92. There were issued during the year 17,500 stamps, 13,575 pounds of ink, and 10,411 pads (see Table 3). This was an increase of issues over previous year of 4,270 stamps, 2,475 pounds of ink, and 4,936 pads. The rapid increase in the demands for these articles is shown by a comparison of the issues for the months of July and August, 1886, with those of the corresponding months of the year 1887, which shows that an excess of 809 stamps, 888 pounds of ink, and 1,671 pads were issued during the two months of the year 1887 over the corresponding months of the previous year. This is accounted for, as in the case of balances and scales, by the inspections now being made. As only about one-quarter of the offices have been supplied with these articles this year, consuming over two-thirds of the appropriation, and as these inspections are likely to continue into the following year, the necessity of an increased appropriation will be apparent.

It is estimated that an appropriation of \$40,000 will be required for the fiscal year ending June 30, 1889.

STATIONERY, FIRST AND SECOND CLASS.

The appropriation for stationery for offices of the first and second classes for the year ended June 30, 1887, was \$55,000. From this amount there have been expended \$46,456.19 (see Table 5), leaving a balance in favor of the appropriation of \$8,543.81. Included in this amount expended is \$500, the estimated amount necessary to cover all outstanding authorized expenditures of first and second class postmasters, where quarterly accounts have not been presented, and which are chargeable to this appropriation. This good showing is the result of the advantageous contracts made for this year, and the painstaking manner in which the supplies have been cared for and distributed. Prior to June 30, 1886, there was no inventory kept of the amount of stock on hand at the close of each year's business, consequently no comparison can be

made with years previous to that date. During the fiscal year 1885-'86 there was expended the sum of \$41,039, leaving stock on hand to the value of \$13,599.93. During the year 1886-'87 there were purchased and paid for out of this appropriation stock and miscellaneous supplies to the amount of \$46,456.19, and there was on hand June 30, 1887, stock valued at \$22,658.94. Comparing the amounts expended for the two years, 1885-'86 and 1886-'87, amounting to \$41,039.64 and \$46,456.19, respectively, it would seem that a greater sum was used during the latter period than was necessary to perform the same service for the previous year, but by contrasting the inventories of stock on hand at the close of each year, \$13,599.93 and \$22,658.94, respectively, and adding to the last-named amount the cost of extra supplies necessary to meet the demands of the natural growth of the service and the furnishing of supplies to the 9 divisions of the railway mail service, the 12 post-office inspectors in charge, and the 22 additional second-class offices established, amounting to \$2,976, not heretofore furnished, it will be shown that a better and more extended service has been performed during the last-named period at a reduced cost to the Department.

It is estimated that it will require \$55,000 to meet the exigencies of the service for the fiscal year ending June 30, 1889.

STATIONERY, POST-OFFICE DEPARTMENT.

The appropriation and expenditures for stationery and free-penalty envelopes for the Post-Office Department for the year ended June 30, 1887, was \$12,600 and \$7,514.35, respectively (see Table 5), leaving a balance of \$5,085.65 unexpended. During the year 1885-'86 there was expended the sum of \$8,590.08, the stock on hand at the close of the year amounting to \$3,065.03. For the year 1886-'87 there were paid out of this appropriation \$7,514.35, and on hand June 30, 1887, supplies valued at \$2,746.42. By comparing the amounts expended for the two years 1885-'86 and 1886-'87, \$8,590.08 and \$7,514.35, respectively, and the stock on hand as shown by the inventories for the same periods, \$3,065.03 and \$2,746.42, it will be shown that while the inventory stock on hand June 30, 1886, exceeds in value that for the same period ending June 30, 1887, by \$318.61, this amount is offset by the difference in the expenditures for the two years of \$1,075.73, or an actual reduction of the cost of supplies for the use of the Department of \$757.12 for the year ended June 30, 1887, as compared with the previous year.

This reduction in the cost of supplies furnished the Department is due to the same causes assigned in the case of the appropriation for offices of the first and second classes—the order prohibiting the indiscriminate issuing of supplies to clerks and messengers, and from the more economical use of articles issued to the different bureaus and divisions. As in the case of stock remaining on hand for post-offices of the first and second classes prior to the fiscal year 1885-'86, no inventory was kept; therefore, comparison can not be made with years prior to that date.

From the lack of knowledge of the demands likely to be made upon this appropriation for the year 1888-'89, I am unable to give an opinion as to the advisability of an increase or reduction of the appropriation, and submit the estimate at the same amount as for the present year.

PRINTING AND BINDING.

From the appropriation of \$180,000 for printing, binding, etc., there have been furnished by the Government Printer 60,581,303 blanks,

books, etc. (see Table 3), at a cost of \$162,403.24 (see Table 5), leaving apparently an unexpended balance of \$17,596.76. This, however, is not the fact, as requisitions were made upon the Government Printer for blanks, books, etc., the demands of the service requiring the same, sufficient to have reduced this apparent balance to a nominal amount, but were held up by him until the beginning of the present fiscal year, for the purpose of retaining a sufficient amount of this appropriation to cover the Post-Office Department's proportion of his current expenses. The amount thus retained is about 9 $\frac{1}{2}$ per cent. of the appropriation. There was an actual increase of 2,781,587 blanks, books, etc., furnished for the year ended June 30, 1887, and if the number were added for which requisitions were made and held up by the Government Printer, a larger increase would be shown. In view of this fact, and the increased demands likely to be made upon this appropriation from the natural growth of the service, an addition should be made to this appropriation of at least 15 per cent.

It is estimated that an appropriation of \$207,000 will be required to meet the demands for the fiscal year ending June 30, 1889.

Estimate of appropriations for fiscal year ending June 30, 1889.

Wrapping and facing-slip paper.....	\$40,000
Wrapping twine.....	80,000
Letter balances and scales.....	15,000
Postmarking, rating, and canceling stamps, ink, and pads.....	40,000
Stationery, first and second class post-offices.....	55,000
Stationery and free-penalty envelopes, Post-Office Department.....	12,600
Printing, binding, etc.....	207,000
Total.....	449,600

The present clerical force of this division consists of 19 clerks, messengers, and laborers. This number is insufficient to do the work required in the business manner and with the attention to details that the quantity and value of the articles demand. Table 5 shows that articles to the value of \$331,740.70 were received and issued from this division for the year ended June 30, 1887. To handle and account for the articles representing this amount, consisting of thousands of tons and millions of articles, in a prompt and accurate manner requires an amount of manual labor and clerical work that the present force is inadequate to perform.

The want of sufficient store room nearly doubles the amount of labor required, both manual and clerical, to supply the demands made upon this division. The present system of book-keeping as applied to articles issued to first and second class post-offices, representing a money valuation, should be introduced for all offices, thereby preventing duplicate orders being filled, excessive demands being made from carelessness or otherwise, and in order to better know the wants and requirements of the different post-offices. Receipts covering items should be required from all postmasters where the articles issued represent a money valuation of amount sufficient to demand the same, but particularly so in the case of stationery issued to first and second class offices, postmasters frequently claiming that they have not received certain supplies weeks and months after the records of this office show that the goods have been forwarded.

Sufficient force should also be at hand to take accurate account of all blanks and books received from the Government Printer and goods from contractors. All of this, however, has been attempted so far as

possible with the force at hand, but with only partially satisfactory results. The rapidly increasing correspondence required to understandingly carry on the business of this division demands a stenographer and type-writer.

It would seem that the interests of the Department would be better served by relieving the Superintendent from the clerical work of the correspondence, thereby enabling him to devote more time to the general details of the division.

I would, therefore, respectfully request that an allotment of eight men be made to this division, consisting of six clerks, inclusive of the stenographer and type-writer, and two messengers or laborers.

SALARY AND ALLOWANCE DIVISION.

The duties of the Salary and Allowance division may be briefly stated as follows:

The adjustment of the salaries of Presidential postmasters, or postmasters of the first, second, and third classes; the consideration of applications for allowances for clerk-hire, rent, fuel, light, furniture, miscellaneous and incidental expenditures; the examination of the quarterly returns or accounts of postmasters at offices of the first and second classes before they are finally passed by the Auditor of the Treasury for the Post Office Department; the regulation of the salaries and duties of the employés necessary for the proper transaction of the postal business in the larger post-offices; the supervision and regulation of the box-rent rates, and the deposits for keys for lock-boxes; and the management of the large and constantly increasing correspondence relative to the subject-matter stated.

In addition to the regular duties, as above stated, the work of reviewing and readjusting the salaries of postmasters and ex-postmasters at offices of the third, fourth, and fifth classes, under the act of Congress approved March 3, 1883, was assigned to the division, by verbal order of Postmaster-General Gresham, April 7, 1884. This large and important work has been carried on under the supervision of the chief, and has progressed as rapidly as possible with the limited additional force of detailed clerks assigned to the work.

The duties of the division have been more than doubled, also, by the act of Congress approved March 3, 1883, which requires an annual adjustment of the salaries of Presidential postmasters to take effect at the beginning of each fiscal year (July 1) instead of a biennial adjustment, as heretofore authorized. The fourth annual adjustment of the salaries of Presidential postmasters was made upon the basis of the gross receipts accruing at the respective offices for the four quarters ended March 31, 1887.

Additional duties have also been imposed upon the division by the act of Congress approved June 29, 1886, to take effect July 1, 1886, which provides that clerks doing money-order business at offices of the first and second classes shall be compensated from the allowance for clerk-hire as made by this office; and that the commissions accruing on money-order business from the date named shall be returned as a part of the revenue of the Department.

* * * * *

The number of letters received during the fiscal year ended June 30, 1887, amounted to 29,834, an increase of 5,803, or 24.1 per cent., as compared with 1886; and 7,961, or 36.4 per cent. more than the number for

the year 1885. The number of letters written amounted to 35,568, an increase of 5,463, or 18.1 per cent. over 1886. Twenty-five thousand three hundred and fourteen circular-letters were sent out, an increase of 10,228, or 67.8 per cent. as compared with 1886.

Four thousand seven hundred and thirty-seven allowances for clerk-hire were made, an increase of 1,325, or 38.8 per cent., as compared with 1886. The number of applications for clerk-hire declined was 2,455, an increase of 728, or 42.1 per cent. as compared with the year 1886. These applications were occasioned chiefly by the operation of the act of June 29, 1886, relative to money-order clerk-hire.

One thousand three hundred and fifty-nine allowances for rent, fuel, and light, were made, being an increase of 6, as compared with 1886.

Six hundred and eighty-three applications for allowances for rent, fuel, and light, were declined, being an increase of 15, as compared with 1886.

Six hundred and fifty-four allowances for furniture for post-offices were made; and 907 applications for furniture were declined.

Two hundred and seven allowances for advertising were made, the aggregate amount allowed being \$9,966.28; and 243 applications for advertising were declined.

One hundred and eighteen post-offices of the fourth class were reported by the Auditor where the annual compensation of the postmaster amounted to \$1,000 for four quarters exclusive of money-order commissions. All of the said offices (118) were assigned to the third class; the aggregate of the salaries of the postmasters thereat making a total of \$124,200, an increase of 61 offices and \$63,200 for compensation of postmasters as compared with 1886.

The special adjustments of postmasters' salaries numbered 119, involving the aggregate amount of \$124,300 for salaries of postmasters.

There were 4 salaries of postmasters reduced and discontinued, making a saving of \$6,700.

The total number of salaries of Presidential postmasters adjusted during the year amounted to 2,478, and the aggregate amount involved for salaries in all the adjustments amounted to \$4,004,600.

The allowances for clerk-hire reduced or discontinued during the year numbered 1,107, making a saving of \$212,898.

Seventy-six allowances for rent, fuel, and light were reduced or discontinued during the year, making a saving of \$18,379.

From April 7, 1884, the date when the work of reviewing and readjusting the salaries of postmasters and ex-postmasters of the third, fourth, and fifth classes, under the act of Congress approved March 3, 1883, was assigned verbally to this division by the Postmaster-General, 61,040 applications for review of salaries under the said act have been received and placed on the files of the Department. The number of applications reviewed and readjusted to date number 51,453. Of this number 21,573 have been allowed, involving the aggregate additional amount for compensation or back pay of postmasters of \$1,050,915.66. Thirty-two thousand eight hundred and eighty applications were reviewed and found to be below the 10 per cent. requirement of law, or for periods outside the dates defined by the said act.

* * * * *

ADJUSTMENT OF PRESIDENTIAL POSTMASTERS' SALARIES.

In compliance with the requirements of the act of Congress approved March 3, 1883, making provisions for annual instead of biennial adjustments, as heretofore, the fourth annual adjustment of the salaries of Presidential postmasters, or postmasters at offices of the first, second, and third classes, was made upon the basis of the gross receipts which accrued at the respective offices for the four quarters ended March 31, 1887, to take effect July 1, 1887.

This adjustment was made as usual upon the gross receipts for one year or four quarters at the new or reduced rate of postage. The salaries of postmasters at 2,359 post-offices were reviewed. The review resulted in 82 post-offices being assigned to the first class, 435 to the second class, and 1,819 to the third class. This was a net increase of 7 first-class offices, 35 second-class offices, and 50 third-class offices from the date named. Two new offices (third class) were added to the Presidential list from July 1, 1887; 22 offices (all third class) were relegated to the fourth class from the same date, making the total number of Presidential offices July 1, 1887, 2,336, an increase of 92 offices, or 4+ per cent., as compared with the number of offices July 1, 1886.

The aggregate amount required to pay the salaries of Presidential postmasters was \$3,880,300, an increase of \$194,800, or 5+ per cent., as compared with the same item July 1, 1886.

The grand total of gross receipts which accrued at the Presidential offices for the four quarters ended March 31, 1887, amounted to \$35,176,161.67, being an increase of \$2,684,610.09, or 8+ per cent., as compared with the receipts as shown by the adjustment which took effect July 1, 1886.

The aggregate of the salaries of postmasters will absorb 11.03 per cent. of the revenue of the Presidential offices, being 0.31 per cent. less than the percentage shown by the adjustment of 1886.

The grand total of the gross receipts which accrued at these offices for the four quarters ended March 31, 1887, is 74.84 per cent. of the revenue of the Department for the same period.

The several adjustments of the salaries of Presidential postmasters made in accordance with the requirements of the act of March 3, 1883, to take effect October 1, 1883, July 1, 1884, July 1, 1885, July 1, 1886, and July 1, 1887, are herewith stated, viz:

Date.	Number of Presidential offices.	Aggregate salaries of Presidential postmasters.	Average salary of Presidential postmasters.	Aggregate receipts which accrued at Presidential offices.	Per cent. of aggregate receipts absorbed by postmasters' salaries.	Per cent. of entire revenue of Post-Office Department which accrued at Presidential offices.
October 1, 1883.....	2,195	\$3,707,500	\$1,689	\$33,535,253.95	11.06	74.28
July 1, 1884.....	2,323	3,828,700	1,648	33,031,697.33	11.59	74.80
July 1, 1885.....	2,233	3,630,600	1,625	81,792,220.55	11.42	75.36
July 1, 1886.....	2,244	3,685,500	1,642	32,491,551.58	11.34	74.07
July 1, 1887.....	2,336	3,880,300	1,661	85,176,161.07	11.03	74.84
Average.....	2,266	3,746,520	1,653	33,205,377.02	11.29	74.67

I also submit a tabulated statement, arranged by States and Territories in alphabetical order, showing the number of Presidential post-offices; the aggregate salaries of postmasters; and the aggregate receipts for the four quarters ended March 31, 1887, as follows:

Statement showing the number of Presidential post-offices in the several States and Territories, and the aggregate salaries of the postmasters thereat, as adjusted to take effect July 1, 1887.

States.	Number of Presidential post-offices; adjustment of July 1, 1887.	Aggregate salaries of postmasters.	Aggregate receipts, four quarters ended March 31, 1887.
Alabama.....	19	31,500	\$171,845.42
Alaska.....	4	7,100	25,537.15
Arizona.....	17	27,100	114,994.42
Arkansas.....	65	110,500	1,039,525.44
California.....	28	46,400	292,725.22
Colorado.....	53	95,200	690,248.73
Connecticut.....	40	68,100	214,628.30
Dakota.....	6	10,100	68,327.37
Delaware.....	1	3,000	330,977.24
District of Columbia.....	17	30,000	138,966.38
Florida.....	29	49,000	352,677.41
Georgia.....	5	6,700	16,989.97
Idaho.....	178	282,400	3,298,687.47
Illinois.....	87	144,000	750,525.42
Indiana.....	124	168,500	908,899.85
Iowa.....	110	176,200	707,946.24
Kansas.....	39	64,000	457,278.61
Kentucky.....	12	19,200	314,468.43
Louisiana.....	38	62,000	360,617.18
Maine.....	19	32,100	616,452.70
Maryland.....	126	224,600	3,824,334.75
Massachusetts.....	166	177,000	1,093,138.13
Michigan.....	51	80,000	727,263.82
Minnesota.....	24	34,400	108,923.84
Mississippi.....	75	118,400	1,572,772.73
Missouri.....	11	18,700	81,286.25
Montana.....	74	108,300	494,356.14
Nebraska.....	7	10,000	29,701.02
Nevada.....	32	50,800	213,901.49
New Hampshire.....	64	116,900	770,460.61
New Jersey.....	8	13,100	41,898.92
New Mexico.....	219	382,000	7,717,720.95
New York.....	24	38,500	144,675.18
North Carolina.....	126	241,500	2,215,633.31
Ohio.....	14	22,300	130,776.08
Oregon.....	169	287,700	3,348,118.38
Pennsylvania.....	11	22,500	207,428.96
Rhode Island.....	18	27,200	134,933.45
South Carolina.....	26	42,700	353,288.94
Tennessee.....	73	115,800	533,772.73
Texas.....	5	9,000	50,423.64
Utah.....	25	41,500	164,108.68
Vermont.....	31	54,500	357,782.15
Virginia.....	13	20,500	71,260.51
Washington.....	15	23,900	107,350.22
West Virginia.....	77	124,100	727,832.10
Wisconsin.....	5	8,000	38,519.51
Wyoming.....			
Total.....	2,336	3,889,309	35,176,151.87

Grand total gross receipts..... \$35,176,151.87
 Grand total postmasters' salaries..... 2,889,309.00
 Percentage of gross receipts absorbed by salaries..... 11.6

The grand total of gross receipts of Presidential offices for the four quarters ended March 31, 1887, amounted to 76.84 per cent of the revenue of the Post Office Department for the same period.

REVIEW OF SALARIES OF POSTMASTERS OF THE THIRD, FOURTH, AND FIFTH CLASSES, UNDER THE ACT OF MARCH 3, 1883.

In previous reports (see Report of the Postmaster-General for the fiscal year ended June 30, 1885, pages 217, 218, and 219, and Report for 1886, pages 155, 156, and 157) a summary of the work of reviewing the salaries of postmasters and ex-postmasters of the third, fourth, and fifth classes, as required by the act of Congress approved March 3, 1883, as construed by the Attorney-General of the United States under date of February 13, 1884, and reaffirmed June 14, 1884, has been given from the time the work was placed in my charge by Judge Gresham, April 7, 1884, to and including the completion of the second schedule for the State of Arkansas, August 17, 1886. Since that date the work has progressed as rapidly as possible with the limited clerical force at command, and the second schedules for thirty-seven States and Territories have been completed as follows: California, Arizona, Colorado, Connecticut, Dakota, Delaware, Florida, Georgia, Idaho, Illinois, Indiana, Iowa, Indian Territory, Kansas, Kentucky, Maine, Louisiana, Vermont, Mississippi, Rhode Island, Maryland, Massachusetts, Michigan, Montana, New Mexico, Washington Territory, Nevada, Utah, South Carolina, Oregon, Nebraska, North Carolina, New Hampshire, Minnesota, New Jersey, Missouri, and New York. The second schedules for the other States and Territories are being completed as rapidly as possible. The second schedule for the State of Ohio is now in process of review.

Fifty-four thousand four hundred and fifty three claims have been reviewed, and 21,573 have been allowed; 32,880 were found to be below the 10 per cent. requirement of the law, or for periods outside the dates defined by the act. At the present time, including the claims for the second schedule of Ohio, 6,578 claims are on file for consideration. This is the total number of claims that can be considered, as the act of Congress approved August 4, 1886, limited the presentation of claims to January 1, 1887.

The total amount allowed as additional compensation to date, including the amount reported as stated in the report for 1886, which was unprovided for at the last session of Congress, is \$1,050,915.66. This sum exceeds the amounts appropriated by Congress to date by \$435,435.70, the aggregate amount appropriated by Congress being as follows:

Under act approved July 7, 1884	\$45,213.80
Under act approved March 3, 1885	178,481.23
Under act approved August 4, 1886	380,209.46
Total.....	603,904.49
Total amount allowed to date	1,050,915.66
Unappropriated for to date	435,435.70

A tabulated statement showing the progress of the work of reviewing the said salaries from April 7, 1884, to date, is hereby submitted, viz:

Statement showing progress of the work of reviewing the adjustment of the salaries of postmasters at offices of the third, fourth, and fifth classes, in compliance with the requirements of the act of March 3, 1883.

Date of schedule.	States.	Number of schedule.	Total number of cases reviewed.	Number of cases allowed to date.	Aggregate amount heretofore allowed postmasters.	Aggregate amount allowed since March 3, 1883.
1884.						
May 14?	Alabama.....	1	88	38	\$10,880.00	\$3,392.14
June 9?	Indiana.....	1	565	222	64,035.79	16,692.13
11	Iowa.....	1	713	175	58,005.42	14,896.54
16	Connecticut.....	1	261	69	31,528.79	6,187.42
24	Arizona.....	1	3	1	493.00	103.54
24	Dakota.....	1	22	1	402.50	51.83
25	Florida.....	1	57	10	8,709.04	2,634.06
25	Colorado.....	1	56	6	680.83	217.31
July 2	Kansas.....	1	178	69	13,251.53	3,485.93
2	Arkansas.....	1	26	12	3,865.11	1,568.62
5	Georgia.....	1	76	24	7,853.52	2,026.49
Aug. 5	California.....	1	150	31	13,948.29	3,422.31
30	Delaware.....	1	82	6	730.06	622.64
30	Illinois.....	1	1,722	546	164,677.33	38,747.72
30	Kentucky.....	1	215	70	19,482.20	5,894.25
30	Louisiana.....	1	75	15	5,001.66	1,947.86
30	Maine.....	1	497	146	30,190.73	7,657.26
Sept. 30	Maryland.....	1	212	61	21,135.95	12,401.77
8	Massachusetts.....	1	466	111	62,521.77	13,389.55
25	Michigan.....	1	753	224	45,180.42	10,947.89
Oct. 1	Minnesota.....	1	499	139	20,515.13	5,206.72
3	Mississippi.....	1	100	26	10,778.96	2,903.61
Nov. 12	Missouri.....	1	607	195	44,689.07	13,694.72
12	Nevada.....	1	17	7	3,868.66	943.16
13	New Mexico.....	1	17	4	444.19	153.43
13	Oregon.....	1	42	12	4,033.64	1,134.53
15	Nebraska.....	1	173	31	4,747.89	2,125.48
29	New Hampshire.....	1	375	107	22,879.67	5,409.13
Dec. 2	Montana.....	1	15	2	358.00	176.83
15	New Jersey.....	1	542	128	29,225.30	9,229.91
1885.						
Mar. 20	New York.....	1	3,344	1,197	306,894.56	77,059.24
23	North Carolina.....	1	334	110	22,892.96	4,967.40
July 13	Ohio.....	1	4,283	2,099	360,177.71	104,522.03
Nov. 18	Pennsylvania.....	1	5,139	2,514	395,414.52	111,416.31
Dec. 18	Rhode Island.....	1	111	30	12,521.84	3,060.48
31	South Carolina.....	1	182	37	13,914.90	5,998.29
23	Tennessee.....	1	602	149	42,161.44	10,085.32
1886.						
Jan. 8	Texas.....	1	373	107	23,214.61	10,764.79
9	Utah.....	1	147	20	1,268.00	502.00
23	Vermont.....	1	742	229	55,163.34	13,164.66
Mar. 6	Virginia.....	1	1,030	361	40,069.60	14,241.91
19	Washington.....	1	24	11	2,407.75	728.74
Apr. 27	West Virginia.....	1	733	323	45,562.79	29,607.64
May 29	Wisconsin.....	1	2,218	894	144,872.17	39,306.92
June 8	Wyoming.....	1	14	2	700.50	281.73
8	Idaho.....	1	13	2	401.50	85.42
Aug. 11	Alabama.....	2	592	121	22,111.06	6,995.63
17	Arkansas.....	2	240	65	10,646.91	4,371.58
Sept. 8	California.....	2	657	145	25,000.27	6,683.54
23	Arizona.....	2	4	1	50.00	16.33
23	Colorado.....	2	39	10	2,150.50	1,016.50
Oct. 1	Connecticut.....	2	545	220	56,850.60	13,756.86
13	Dakota.....	2	13	4	271.87	476.73
13	Delaware.....	2	176	66	9,890.33	2,446.65
19	Florida.....	2	93	16	8,487.45	2,721.06
Nov. 2	Georgia.....	2	388	113	16,165.37	4,878.52
3	Idaho.....	2	10	6	5,705.00	1,271.46
1887.						
Jan. 31	Illinois.....	2	2,868	1,214	204,134.26	58,274.96
Feb. 28	Indiana.....	2	3,025	1,530	180,643.27	57,816.85
Mar. 21	Iowa.....	2	1,890	840	104,091.51	29,111.87
23	Indian Territory.....	2	6	4	1,204.50	124.67
27	Kansas.....	2	429	114	17,330.37	5,496.07
Apr. 23	Kentucky.....	2	1,318	506	67,579.73	21,721.16
27	Maine.....	2	1,080	604	68,627.57	18,981.16
30	Louisiana.....	2	136	82	4,025.00	1,826.63

Statement showing progress of the work of revising the adjustment of the salaries of postmasters of the third, fourth, and fifth classes—Continued.

Date of schedule.	States.	Number of schedule.	Total number of cases reviewed.	Number of cases allowed to date.	Aggregate amount before allowed postmasters.	Aggregate amount allowed under act March 3, 1883.
May 2	Vermont.....	2	250	114	\$17,426.10	\$5,106.74
4	Mississippi.....	1	356	74	12,453.96	4,823.77
4	Rhode Island.....	1	134	56	7,028.77	2,699.03
10	Maryland.....	1	351	351	36,260.97	10,748.69
20	Massachusetts.....	1	1,163	481	116,931.32	23,840.33
31	Michigan.....	1	1,595	693	94,498.31	25,592.65
June 1	Montana.....	1	14	1	138.00	15.18
1	New Mexico.....	1	19	4	2,352.16	581.36
1	Washington.....	1	39	8	1,849.61	337.31
2	Nevada.....	1	45	13	4,381.98	1,365.59
2	Utah.....	1	97	22	1,381.00	564.60
3	South Carolina.....	1	94	34	5,903.12	2,335.72
4	Oregon.....	1	180	54	7,787.65	2,260.76
6	Nebraska.....	1	152	41	3,863.82	1,292.47
8	North Carolina.....	1	887	162	12,032.81	4,647.49
11	New Hampshire.....	1	579	200	36,164.08	8,202.32
17	Minnesota.....	1	783	292	28,263.69	9,000.58
23	New Jersey.....	1	792	325	57,314.70	11,942.49
29	Missouri.....	1	1,448	623	81,675.69	25,550.40
July 25	New York.....	2	3,997	1,839	242,595.57	68,065.26
	Total.....		54,453	21,573	3,739,771.72	1,050,915.66

BOXES AND BOX RENTS.

Post-office boxes serve a threefold purpose, to wit: First, as an accommodation to the patrons of the office; second, as a convenience to the postmasters; and, third, as a source of revenue.

They are classed as call boxes, lock boxes, and lock drawers, and are provided as follows:

- (1) In Government buildings by the Treasury Department.
- (2) At first and second class post-offices the lessor, by agreement in his lease, sometimes provides them.
- (3) Individuals may provide lock boxes or drawers for their own use under section 490 Postal Laws and Regulations, edition of 1887.
- (4) In all other cases the necessary boxes must be furnished and kept in repair by the postmaster.

The revenue derived from the rent of boxes at Presidential post-offices, or offices of the first, second, and third classes, is included in the gross receipts accruing at the offices in making the annual adjustment of Presidential postmasters' salaries. The said postmasters, therefore, receive, indirectly, a part of the box rents in the sum allowed as compensation. At the fourth-class offices all the box rents practically go to the postmasters, the Government receiving no revenue therefrom.

The supervision of box-rent rates by the Department has greatly improved this branch of the service, securing greater uniformity of prices, better accommodation to the box renters, and increasing the revenue from box rents.

KEY DEPOSITS.

At post-offices in public buildings under the control of the Treasury Department, and in buildings leased by the Government, postmasters are required to exact in advance a deposit of 50 cents for each key de-

livered to the renter of a lock box or drawer, as security against its loss, such deposit to be refunded when the key is returned. Postmasters who provide their own boxes may require a key deposit at their offices not to exceed 50 cents per key, but if they omit the deposit they must advise the First Assistant Postmaster-General.

In the Government buildings where the lock boxes and drawers are furnished by the Treasury Department the postmaster will deliver amounts collected for key deposits to the custodian of the building, who is charged with keeping such boxes, and drawers, and keys in repair, and who will return the amount upon surrender of the key.

At offices in buildings leased by the Government, with box outfits covered by the lease, the postmasters are required to hold such key-deposits as a trust fund, subject to return on application upon forfeiture as required by the postal regulations.

The modified regulations allowing postmasters who provide their own boxes to exercise their discretion in collecting a deposit for keys, has improved this branch of the service very much. But during the past year many postmasters and box-renters have complained that the regulation requiring a deposit of 50 cents for each key issued is unjust, because the amount (50 cents) is deemed exorbitant, as the actual cost of a key will not exceed 20 cents. In many instances postmasters have been unable to rent boxes because the would-be patrons refused to rent boxes rather than make a deposit of 50 cents for the key.

Notwithstanding the fact, therefore, that offices located in Government buildings under the control of the Treasury Department are required to exact in advance a deposit of 50 cents for each key, I recommend that the regulation requiring a deposit of 50 cents for each key be modified by fixing the key-deposit rate at 25 cents for each key. I am of opinion that a reduction of the key-deposit rate from 50 cents to 25 cents will enable postmasters to rent more boxes, and thereby materially increase the revenue derived from box-rents.

LEGISLATION RECOMMENDED.

ALLOWANCES FOR RENT FOR THIRD-CLASS OFFICES.

I renew the recommendation heretofore made by this office, that the Government pay the office rent at post-offices of the third class. Attention has been invited to this important matter (see Reports of the Postmaster-General for 1884, pages 20 and 79; 1885, page 225; and 1886, pages 48, 49, 50, 51, 52, 158, and 159); but favorable action has not been taken by Congress. As heretofore stated by the Postmaster-General (see Report of the Postmaster-General for the fiscal year ended June 30, 1884, page 20), "there is no reason why these expenses should not be paid at third-class post-offices as well as at first and second class offices."

In the appropriation act for the postal service for the fiscal year ended June 30, 1886, the Department had discretionary authority to lease premises for use of post-offices of the third class, but that authority ceased and terminated June 30, 1886.

I recommend that authority be granted and the necessary appropriation be made by Congress for paying rent for third-class post-offices.

I submit herewith a tabulated statement showing the number of these offices of each grade by States and Territories in effect July 1, 1887, being a table of 1,819 offices, or an increase of 50, as compared with the number of third-class offices July 1, 1886.

REPORT OF THE POSTMASTER-GENERAL.

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Statement showing the number of third-class post-offices in each State and Territory, arranged to exhibit the number of each grade (salary \$1,000 to \$1,900, inclusive), from July 1, 1887.

States.	Postmasters' salaries.										Totals.
	\$1,000.	\$1,100.	\$1,200.	\$1,300.	\$1,400.	\$1,500.	\$1,600.	\$1,700.	\$1,800.	\$1,900.	
Alabama	3	1	1	1	2	2	2	1	1		15
Alaska											3
Arizona								3			3
Arkansas	1	1	4	3			2	1		1	13
California	3	5	4	6	6	9	7	7	1	1	49
Colorado	2	3	1		1	7	4	3	1	2	24
Connecticut	1	6	4	3	5	5	6	3		2	35
Dakota	3	5	10	2	10	2	2		8	1	38
Delaware			1	2	1				1		5
District of Columbia											
Florida		1	1	2		2	1	2	2	1	12
Georgia	1	3	8	3	5	1	3	2	1	1	23
Idaho			2			1					5
Illinois	17	12	22	17	27	17	10	11	7	5	145
Indiana	3	9	7	7	8	9	10	6	6	3	68
Indian Territory											
Iowa	4	16	11	8	18	11	15	12	5	4	104
Kansas	7	13	7	7	11	11	14	10	6	5	91
Kentucky	2	3	6	3	3	4	4	1	3	1	30
Louisiana	1	3	1	1		2	1			1	10
Maine	3	6	4	1	5	2	2	4	1	1	29
Maryland	1	2	3	4	1	3			1	1	15
Massachusetts	2	15	3	4	13	20	8	14	8	5	92
Michigan	4	8	10	8	10	12	8	13	6	3	82
Minnesota	7	7	3	5	4	4	5	4	1	1	41
Mississippi	3	7	1	1	4	2	1		1		20
Missouri	3	13	9	10	8	6	9	6	6		65
Montana			1	1	1	2	2	2			9
Nebraska	3	16	10	5	9	11	4	6	2		66
Nevada	1	2			1			1	1	1	7
New Hampshire	4		3	1	4	5	2	1	3		26
New Jersey		3	7	2	6	5	6	9	6	4	47
New Mexico				1	1	2	1	1			6
New York	7	20	18	20	17	28	16	12	13	6	157
North Carolina		4	2	2	3	3	1	1	1	3	20
Ohio	6	11	10	7	13	13	12	6	8	7	98
Oregon	2	1	1		1	5		1		1	12
Pennsylvania	14	17	11	7	21	9	18	15	9	7	128
Rhode Island			1		1		3		1		6
South Carolina	2	3	2	2		5		1			15
Tennessee		6	1	6	3	1	2		1	1	21
Texas	5	7	9	5	8	11	4	9	2	1	61
Utah		1	1			1					3
Vermont		3		2	7	3	2		2		19
Virginia	1	2		2	9	2	2	2	1	2	23
Washington	1	2	1		2	2	1				9
West Virginia	1	2	2	2	1	1	1	1		1	12
Wisconsin	4	10	5	7	8	9	8	3	5	2	61
Wyoming			1			2				1	4
Total	122	252	203	170	254	232	190	176	116	75	1,819

MONEY-ORDER CLERK-HIRE.

The recommendation of this office (see Report of the Postmaster-General for the fiscal year ended June 30, 1885, page 226) relative to money-order clerk-hire was favorably considered by Congress, but in the act approved June 29, 1886, to take effect July 1, 1886, provision was not made for the payment of money-order clerk-hire. An estimate for this purpose made by this office was included in the deficiency bill of the last session, but the said bill failed to become a law. Therefore no provision has yet been made for this purpose for the fiscal year ended June 30, 1887. This matter, in my judgment, should receive early and favorable consideration by Congress.

The recommendation of this office (see Report of the Postmaster-General for the fiscal year ended June 30, 1886, page 160), that provision be made for the payment of rent for a branch of the Washington, D. C.,

post-office, known as "Station C," located on F street northwest, between Fourteenth and Fifteenth streets, was favorably considered by Congress, and the Postmaster-General was authorized to rent a suitable building for the use of the said station at a rate not exceeding \$1,000 per annum. Accordingly, premises No. 1413 F street northwest were leased at not exceeding \$1,000 per annum for rent for a term of one year from July 1, 1887.

THE FREE-DELIVERY SYSTEM.

At the close of the fiscal year ended June 30, 1887, there were 189 free-delivery offices, an increase of 8 over the preceding year, the new offices established being Bradford, Pa.; Birmingham, Ala.; Wichita, Kans.; Winona, Minn.; Battle Creek, Mich.; Rutland, Vt.; Joliet, and Rock Island, Ill. The number of carriers was 5,310; an increase of 469.

The appropriation for the service was \$4,928,531.25. The total cost of the service was \$4,618,692.07, leaving a balance unexpended of \$309,839.18. The surplus was caused by the retirement from the service of a large number of carriers receiving the maximum rate of pay and the appointment of others to fill the vacancies at the minimum rate, as required by act of Congress of August 2, 1882. The estimate for 1888-'89 is credited with the amount that will probably be saved by these changes.

The receipts from local postage exceeded the cost of service in 30 of the 189 offices (an increase of 11 over the previous year). Of the remaining offices there were 23 which exceeded four-fifths, 31 exceeded three-fifths, 21 exceeded one-half, 41 exceeded two-fifths, 40 exceeded one-fifth, and 3 had less than one-fifth of the cost of service.

The cost of service and the local postage at each of the 30 offices above referred to are given in the following table:

Post-offices at which the local postage exceeded the cost of the service.

Name of office.	Receipts from local postage.	Cost of carrier service.	Net gain.
Atlanta, Ga.	\$14,750.80	\$14,727.98	\$22.82
Birmingham, Ala.	4,432.20	3,044.31	1,387.89
Boston, Mass.	501,342.94	311,122.07	190,220.87
Brooklyn, N. Y.	316,937.05	216,493.24	100,443.81
Buffalo, N. Y.	85,155.90	59,706.31	25,449.59
Chicago, Ill.	534,103.78	341,584.98	192,518.80
Cincinnati, Ohio	141,800.17	122,439.86	19,360.31
Denver, Colo.	41,052.92	20,977.53	20,075.39
Detroit, Mich.	60,138.18	54,161.60	5,976.58
Duluth, Minn.	6,543.42	4,796.01	1,747.41
Elizabeth, N. J.	12,878.69	7,833.96	5,044.73
Kansas City, Mo.	55,469.59	41,276.90	14,192.69
Lincoln, Nebr.	12,029.51	6,804.82	6,094.69
Milwaukee, Wis.	61,959.44	49,044.26	12,915.18
Montgomery, Ala.	5,181.38	4,420.77	750.61
New Haven, Conn.	35,085.92	22,426.85	12,659.07
New Orleans, La.	53,593.31	53,072.49	520.82
New York, N. Y.	1,956,887.37	676,380.64	1,280,506.73
Omaha, Nebr.	31,182.72	18,562.72	12,620.00
Philadelphia, Pa.	998,089.43	430,979.81	567,109.62
Pittsburgh, Pa.	96,774.93	56,634.82	40,140.11
Providence, R. I.	45,401.71	42,058.19	3,343.52
Saint Louis, Mo.	274,122.72	177,583.77	96,538.95
Saint Paul, Minn.	53,231.27	42,735.32	10,495.95
San Francisco, Cal.	162,573.71	102,967.58	59,606.13
Savannah, Ga.	9,871.68	8,572.15	1,299.53
Syracuse, N. Y.	22,218.90	21,602.34	616.56
Topeka, Kans.	9,030.77	8,775.99	254.78
Troy, N. Y.	20,926.03	19,207.81	1,718.22
Wilkes Barre, Pa.	9,384.97	8,082.14	1,302.83

Under the act of Congress approved January 3, 1887, establishing the free-delivery system in places containing a population of 10,000, or at any post-office which produced a gross revenue of \$10,000 during the preceding fiscal year, 140 additional free-delivery offices have been established during the present fiscal year to this date (October 25, 1887), making 329 in all. A large number of applications from places having the necessary requirements are now ready for consideration.

Additional information concerning the operations of this service, and showing its growth from its commencement, July 1, 1863, will be found in the tabulated statements, marked D and E, appended to this report.

In conclusion, I desire earnestly to commend the chiefs of division and the clerks of this Bureau for faithful and efficient service.

Very respectfully,

A. E. STEVENSON,

First Assistant Postmaster-General.

Hon. WM. F. VILAS, *Postmaster-General.*

REPORT OF THE SECOND ASSISTANT POSTMASTER-GENERAL.

POST-OFFICE DEPARTMENT,

OFFICE OF SECOND ASSISTANT POSTMASTER-GENERAL,

Washington, D. C., September 24, 1887.

SIR: The annual rate of expenditure for inland mail transportation on the 30th of June, 1887, was—

For 13,830 star routes, aggregating 231,208.53 miles in length.....	\$4,695,268.69
For 30 regulation wagon routes, aggregating 387.75 miles in length...	404,264.74
For 5,518 mail-messenger routes, aggregating 4,300.64 miles in length..	829,548.61
For 123 steam-boat routes, aggregating 10,597.12 miles in length.....	433,189.18
For 1,827 railroad routes, aggregating 130,948.81 miles in length.....	16,174,691.22
For railway post-office car service	1,881,580.50
For railway post-office clerks.....	4,827,466.00
For mail equipments	274,913.83
For necessary and special facilities on trunk lines.....	285,586.10
Total.....	29,806,508.87

Comparison with the report for June 30, 1886, shows: For the star service (including the regulation wagon service) an increase of 615 routes, a decrease of 2,318.72 miles in the length of routes, and a decrease of \$252,647.57 in the annual rate of expenditure.

The number of miles traveled per annum was 84,259,284.27, at a cost of 6.05 cents per mile; showing an increase of 1,031,563.27 in the number of miles traveled per annum and a decrease of 0.37 cent in the rate of cost per mile.

For the mail-messenger service an increase of 163 routes, an increase of 126.64 miles in the length of routes, and a decrease of \$5,311.39 in the annual rate of expenditure.

The number of miles traveled per annum (as estimated) was 9,901,805.61, at a cost of 8.37 cents per mile.

In the special office service there were 2,431 routes, aggregating 15,431.86 miles in length.

The number of miles traveled per annum (as estimated on basis of two trips a week for each route) was 3,209,826.88; an increase of 54 routes, and an increase of 679.86 miles in the length of routes.

For the steam-boat service, an increase of 6 routes, a decrease of 214.88 miles in the length of routes, and a decrease of \$13,229.82 in the annual rate of expenditure.

The number of miles traveled per annum was 3,112,283.32, at a cost 13.92 cents per mile; showing a decrease of 5,311.63 in the number of

miles traveled per annum, and a decrease of 0.40 cent in the rate of cost per mile.

For the railroad service, an increase of 125 routes, an increase of 7,015.81 miles in the length of routes, and an increase of \$654,500.22 in the annual rate of expenditure for transportation.

The number of miles traveled per annum was 169,689,865.85, at a cost of 9.53 cents per mile; showing an increase of 3,990,476.85 in the number of miles traveled per annum, and an increase of 0.16 cent in the rate of cost per mile.

For the railway post-office car service, an increase of \$65,259.50 in the annual rate of expenditure.

The annual rate of expenditure for the railroad service, including the railway post-office car service, was \$18,056,271.72; showing an increase of \$719,759.72.

The cost per mile traveled for railroad service, including the cost for railway post-office car service, was 10.64 cents, showing an increase of .13 cent in the rate of cost per mile.

For the railway post-office clerks, an increase of \$259,821 in the annual rate of expenditure.

For mail equipments, a decrease of \$13,220.17 in the annual rate of expenditure.

For necessary and special facilities on trunk lines, an increase of \$33,860.10 in the annual rate of expenditure.

The sums actually disbursed appear in the Auditor's report.

The number of contracts drawn in duplicate during the year was 5,366; an increase of 887 over the preceding year.

Comparison of the star and steam-boat service for the year ended June 30, 1887, with the annual average of said service for eight years next preceding develops the following results:

TABLE NO. 1.—Comparison of star and steam-boat service.

	Star service.			Steam-boat service.		
	Miles traveled.	Rate of expenditure.	Cost per mile.	Miles traveled.	Rate of expenditure.	Cost per mile.
Average for years 1879 to 1886, inclusive	74,395,517	\$5,453,897	<i>Cents.</i> 7.467	4,293,926	\$617,801	<i>Cents.</i> 15.068
For year ended June 30, 1887	84,259,284	5,099,533	6.052	3,112,291	433,146	13.918
Increase (per cent.)	7.479					
Decrease (per cent.)		12.886	18.95	27.603	33.129	7.63

TABLE NO. 2.—PERCENTAGE OF INCREASE AND DECREASE IN ESTIMATES FOR INLAND TRANSPORTATION.

Statement showing the percentage of increase or decrease in the estimates of cost for inland mail service for the years 1881 to 1887, inclusive, as compared with the appropriation for the year preceding each of them:

Appropriation.		Estimate.		Percentage of increase or decrease.	
Year.	Amount.	Year.	Amount.	Increase.	Decrease.
1880	\$20,815,000.00	1881	\$24,125,000.00	15.73	
1881	23,320,000.00	1882	25,715,032.10	10.24	
1882	21,770,022.00	1883	25,738,000.00	8.59	
1883	26,067,000.00	1884	25,494,120.00		2.39
1884	24,287,128.00	1885	27,441,805.60	12.52	
1885	24,401,000.00	1886	30,291,268.80	14.74	
1886	28,510,000.00	1887	30,363,745.61	0.50	
1887	28,128,022.00	1888	30,137,750.15	.12	
1888	30,287,780.15	1889	31,818,682.74	6.86	

The first of the immediately preceding tables shows that while there has been a steady and uniform increase in the percentage of the miles traveled in the star service, or in other words in the quantity of the service performed, to meet the demands of the public for postal facilities, there has been on the other hand a steady and uniform decrease in the percentage of the annual rate of cost of such service per mile. The increase in the percentage in the service last year over the average service during the preceding seven years was 7.11 per cent.; this year the increase of the same over the preceding eight years was 7.48 per cent., while the figures show a decrease in the rate of cost per mile this year of 19 per cent. as against a decrease last year of 16 per cent.

In the steamboat service, as will be seen by reference to the same table, there has been an equally gratifying result in the reduction of percentage in the rate of cost per mile in the service performed.

A condensed statement of the whole service for the fiscal year ended June 30, 1887, shows that the total number of routes in operation on that date was 23,762, being an increase on the previous year of 963 routes, or 4.22 per cent.; that the length of these routes aggregated a mileage of 392,874.71, being a net increase in mileage of 5,288.71, the percentage of increase in length of routes being 1.36; that the number of miles traveled during the year was 270,173,065.93, being an increase of 5,016,728.44 of miles of travel, equivalent to an increase of 1.99 per cent. in miles traveled; that the cost per mile traveled was 11.032 cents, being a decrease of 1.64 per cent. in the cost of miles traveled over the previous year; that the rate of cost of this service on the same day, to wit, June 30, 1887, was \$29,806,508.87, being a total increase over the previous fiscal year of \$779,850.87, being an increase of 2.68 per cent. in the rate of expenditure over the previous year.

STAR SERVICE.

The annual rate of expenditure for this class of service, including regulation wagon mail service, on June 30, 1887, was \$5,099,533.43.

The number of routes was 13,860, of an aggregate length of 231,596.28 miles, and an annual travel of 84,259,284.27 miles.

The cost per mile traveled was 6.05 cents.

A comparison with the last annual report shows for the fiscal year ended June 30, 1887, an increase of 615 routes, of 1,031,563.27 miles traveled per annum, and a decrease of \$252,647.57 in annual rate of expenditure.

The appropriation for the last fiscal year was \$5,850,000. The sum actually expended was \$5,119,649.30, leaving an unexpended balance of \$730,350.70.

The contracts made during the last fiscal year for the performance of star service from July 1, 1887, to June 30, 1891, in the third section, embracing the States of Ohio, Indiana, Michigan, Wisconsin, Minnesota, Illinois, Iowa, and Missouri, effected a saving of \$86,507.32 in the annual rate of expenditure in that section over the rate of cost during the previous contract term, and represents a saving of \$346,029.28 for the ensuing four years from July 1, 1887.

The number of routes in operation on June 30, 1887, including regulation wagon routes, was 13,860; on July 1, 1887, 14,368, an increase of 508.

The annual rate of expenditure for all the star service in operation on July 1, 1887, was \$5,040,790.97, being \$58,742.46 less than on June 30, 1887.

The appropriation for the current year is \$5,400,000; the sum estimated as necessary for the current fiscal year is \$5,300,000, leaving an unexpended balance at the close of the fiscal year of \$100,000. Estimated as necessary for the fiscal year ending June 30, 1889, \$5,482,000; being \$82,000, or 1.52 per cent., more than the appropriation for the current year.

REGULATION WAGON SERVICE.

This service is that performed in cities in wagons of a uniform character prescribed by the Department, and is a most important and necessary arm of the service for the dispatch and transfer of the mails in the great centers of business and population. It is awarded by contract, as star route service, and is estimated for in the appropriation for that service, and paid for out of that appropriation. The statement following shows the cities in which it has been established and the annual rate of expenditure therefor:

Annual rate of expenditure for regulation, mail messenger, mail station, and transfer service in operation on June 30, 1887.

Place.	Amount.	Place.	Amount.
Baltimore, Md.....	\$8,875.20	New Orleans, La.....	\$4,098.00
Boston, Mass.....	34,960.00	New York, N. Y.....	165,000.00
Brooklyn, N. Y.....	16,800.00	Omaha, Nebr.....	2,593.00
Buffalo, N. Y.....	4,900.00	Philadelphia, Pa.....	27,200.00
Burlington, Iowa.....	1,700.00	Pittsburgh, Pa.....	6,880.00
Charleston, S. C.....	2,100.00	Providence, R. I.....	2,190.00
Chattanooga, Tenn.....	1,400.00	Richmond, Va.....	2,600.00
Chicago, Ill.....	35,549.00	San Francisco, Cal.....	8,000.00
Cincinnati, Ohio.....	8,907.00	Saint Louis, Mo.....	16,298.00
Cleveland, Ohio.....	4,890.00	Saint Paul, Minn.....	2,321.00
Detroit, Mich.....	5,798.00	Savannah, Ga.....	2,196.00
Kansas City, Mo.....	5,850.00	Toledo, Ohio.....	5,670.00
Knoxville, Tenn.....	1,497.00	Washington, D. C.....	9,876.54
Louisville, Ky.....	5,890.00	Wilmington, N. C.....	890.00
Memphis, Tenn.....	4,000.00		
Nashville, Tenn.....	2,782.00	Total.....	404,264.71

STEAM-BOAT SERVICE.

The annual rate of cost of this class of service on June 30, 1886, was \$446,419, and on July 1, 1886, \$405,945, showing a reduction of \$40,474. On June 30, 1887, it was \$433,189.18, showing a reduction of \$13,229.83 since June 30, 1886.

This reduction has been accomplished notwithstanding the establishment of service from Tampa, by Key West, Fla., to Havana, Cuba (under the provisions of the act of March 3, 1885), which went into operation August 1, 1886, under a contract at a cost of \$54,000 for the ensuing eleven months of the fiscal year ending June 30, 1887. There has also been an increase of six routes during the last fiscal year.

The contracts for this class of service going into effect July 1, 1887, in the third section were made at an aggregate rate of \$3,362.46 less than the service which they replaced, representing a saving of \$13,449.84 for the contract term of four years.

The appropriation for this service for the fiscal year ended June 30, 1887, was \$575,000, of which there was expended \$421,370.24, leaving an unexpended balance of \$153,629.76.

The appropriation for inland steam-boat service for the current fiscal year is \$450,000. The annual rate of cost on August 31, 1887, was

\$439,503.13, and in view of these figures, the fact that there is every probability that the Tampa and Havana service will be kept up, and the further fact that there is now pending an urgent application for increase of the service from Port Townsend, Wash. Ter., to Sitka, Alaska, it is submitted that a slightly increased appropriation will have to be made, and I recommend, therefore, an appropriation of \$475,000 for the next fiscal year.

MAIL-MESSENGER SERVICE.

The annual rate of expenditure for this class of service on June 30, 1887, was \$829,548.61.

A comparison with the service on June 30, 1886, shows that there has been an increase of 163 routes, of 126 miles in length, and a decrease of \$5,311.39 in the annual rate of cost.

The annual rate of cost on August 31, 1887, was \$829,535.60.

The sum deemed necessary for the next fiscal year is \$900,000, the same as the appropriation for the current year.

During the past fiscal year a very close and thorough review of this service has been made with the view of ascertaining with as much certainty as possible what railroads were liable for the performance of terminal service and the supply of intermediate offices within the 80-rod limit, and it has resulted in a diminution in the rate of cost of this service, which is shown in the tables.

DIVISION OF INSPECTION.

To this division is assigned the duty of inspecting the performance of the whole service in all its branches throughout the United States and Territories. At the end of every month reports known as "Registers of Arrivals and Departures" of the mails are forwarded to this division by postmasters at the terminal or reporting offices. These are carefully examined to ascertain if the service has been regularly and properly performed without failure or delinquency, and in conformity with the terms of the contract and the orders and regulations of the Department.

To this division also are forwarded all complaints and reports of failures, or delinquencies in the service, and it conducts all the correspondence incident thereto. It is gratifying to state that these complaints are less frequent than formerly, which fact indicates a more satisfactory performance of the service. If the service is found to be performed in accordance with the terms of the contract and the orders and regulations of the Department, this fact is certified quarterly to the Auditor of the Treasury for the Post-Office Department, and on these certificates payments for the service are made. When failures or delinquencies are reported fines or deductions are made for such failures or delinquencies, and these are noted on the certificates of the service transmitted to the Auditor, and payments are made accordingly. The duties of this division are very important, as on the proper fulfillment of them the efficiency of the service greatly depends.

The following statement shows the amount of fines and deductions so made during the last fiscal year, and also the amount of remissions of said fines and deductions when proper evidence was submitted in accordance with the provisions of section 3962, Revised Statutes. (Postal Laws and Regulations, 1887, p. 329.)

FINES AND DEDUCTIONS.

The gross amount of fines and deductions from postal contractors and others during the year ended June 30, 1887, was	\$239,710.9
The amount of remissions on deductions on account of satisfactory explanation was	\$40,457.68
The amount of remissions of fines was	35,435.50

Making total remissions of fines and deductions of..... 75,893.18

Leaving the net amount of fines and deductions on account of railroad, star, and steam-boat service for the fiscal year ended June 30, 1887, of ...	213,817.11
To this are to be added fines imposed on, and deductions made from, the pay of railway mail service employes for failures, of. \$3,760.73	
And from mail messengers.....	2,324.59
	6,085.32

Making total net deductions and fines for the fiscal year ended June 30, 1887, of 219,902.43

The above amounts are classified as follows:

Deductions and fines, railroad service.....	\$208,725.01
Deductions and fines, star service.....	54,194.79
Deductions and fines, steam-boat service	26,790.49
Deductions and fines, mail messengers.....	2,324.59
Deductions and fines, postal clerks	3,760.73
Total deductions and fines.....	\$295,795.61
Remissions, railroad service	61,373.46
Remissions, star service	11,668.11
Remissions, steamboat service.....	2,752.04
Remissions, postal clerks	99.57

Total remissions 75,893.18

Leaving net amount of fines and deductions for the fiscal year ended June 30, 1887, of.....	219,902.43
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MAIL EQUIPMENTS.

Appended herewith is a tabular statement (O) of the number, description, prices, and cost of all mail-bags and mail-catchers purchased and put into service during the year ended June 30, 1887; and a tabular statement (P) of all mail locks and keys purchased for the service during the same period; also a tabular statement (N) of all contracts for mail equipments in operation on June 30, 1886.

The total cost of mail-bags and mail-catchers, with their appurtenances and repairs, during the year ended June 30, 1887, was \$255,391.83, against a cost for the same item during the previous fiscal year ended June 30, 1886, of \$268,138.36

The appropriation for these items for the last fiscal year was \$260,000.

The total number of new mail-bags purchased and put into service during the year was 185,500, of which number 25,500 were locked mail-bags of various kinds and sizes, used chiefly for letters and registered mail matter, and 160,000 were tied mail-bags, used for mail matter of the second, third, and fourth class when not registered.

This number of new mail-bags was required for the most part to take the place of old ones worn out and decayed. This shows a decrease of 12 per cent. compared with the quantity (212,362) put in service during the last preceding year.

The reduced amount of appropriation, which was \$15,000 less than the appropriation for either the last preceding year or the current fiscal year, necessitated this decrease, but it must be added that this decrease

in the appropriation compelled the Department to afford less adequate means to supply sufficient mail-bags during the year, and left the unsatisfied demands of the service to be met by the appropriation for the current fiscal year.

The balance of the appropriation shown to have been unexpended (\$4,608.17 statement O) resulted from the amount reserved out of the appropriation for the reimbursement to postmasters for expenses necessarily incurred, and paid by them for repairs of mail-bags, the cost of which is contingent and variable, and can not be definitely and accurately ascertained until some time after the end of the fiscal year, when all the postmasters' accounts shall have been settled by the Auditor of the Post-Office Department.

The total cost of mail-catchers, including repairs, was \$1,804.80. The total cost of mail locks and keys, including repairs of the same, was \$19,522; the appropriation being \$20,000.

The great increase incessantly going on in the amount of mail matter, and the constant increase in the frequency of dispatching the same, require, necessarily, a commensurate increase in the supply of mail equipments. Larger quantities of such supplies will be indispensable for the necessities of the service during the ensuing fiscal year.

Under a convention recently concluded between you and the governor-general of Jamaica, a parcel post has been established, and, if the confident expectations now entertained of the extension of this class of service be realized, it will impose upon the Department the necessity of providing a larger number of bags in addition to those used in the domestic service.

After a careful consideration, the necessary cost of requisite mail equipment for the year ending June 30, 1889, is estimated to be as follows:

For mail-bags and mail-catchers.....	\$295,000
For mail locks and keys.....	30,000

The above estimate amounts to \$20,000 more for mail bags and mail catchers, and \$7,000 more for mail locks and keys than the appropriation for the current fiscal year, and it is believed that it will in no manner exceed what the requirements of the increased service will demand.

The act of Congress, approved January 3, 1887, extending the free-delivery system to places containing 10,000 inhabitants, and the continual extension and expansion of the direct-pouch and the direct sack systems for registered matter, will require increased supplies of mail locks and keys, and a stock amply sufficient to meet any extraordinary emergencies of the service must always be kept on hand.

Accompanied herewith is a statement of the stock of mail-bags, mail locks and keys which were in service on the 30th of June, 1887.

MAIL-BAGS, MAIL LOCKS AND KEYS.

The total number of mail locks and keys in the service on the 30th of June, 1887, was as follows:

Mail-bag locks.....	240,264
Street letter-box locks.....	37,274
Total number of mail-locks.....	<u>277,538</u>

Keys to mail-bag locks.....	67,416
Keys to street letter-box locks.....	6,467
Total number of mail-keys.....	73,903

Number of mail-bags in service on the 30th of June, 1887, estimated from average periods of their duration, and the quantity of new mail-bags put into service during such periods.

Locked mail-bags of every kind.....	152,769
Tied mail-sacks of every kind.....	570,012

Total number of mail-bags.....	722,601
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The business of this division involves the lifting, moving, and carrying of large quantities of weighty material (boxes containing mail locks, label cases, cord fasteners, etc.); which are to be handled in the lock room in the Department. For many years past the services of an able-bodied laborer to assist in the performance of this work has been recognized and furnished. No provision has recently been made for this necessary work, and its performance is, therefore, imperfect and unsatisfactory. I therefore recommend that in the estimates for this Department provision be made for a laborer to perform this service, in accordance with the suggestions of the clerk in charge of the mail equipment division.

RAILROAD TRANSPORTATION.

The annual rate of cost for railroad transportation on all adjusted service on June 30, 1887, was \$16,174,691, as against \$15,520,191 on June 30, 1886, being an increase of \$654,500, or 4.22 per cent. The increase for the year ended June 30, 1886, was \$761,696, or 5.16 per cent., and for the year ended June 30, 1885, \$1,484,889, or 11.18 per cent. It will thus be seen that the increase in the annual rate of cost for the fiscal year ended June 30, 1887, is \$107,196 less than the increase for the fiscal year 1886, and \$830,389 less than the increase for the fiscal year 1885.

Notwithstanding this large comparative reduction in the annually increasing rate of cost, the efficiency of the service has been fully maintained, and more miles of new service were ordered in the fiscal year ended June 30, 1887, than in the two previous years combined. The amount of new service ordered in 1885 was 3,872 miles, and in 1886 2,901 miles, making for the two years an aggregate of 6,773 miles, whereas in the fiscal year 1887 7,016 miles were ordered. There was, however, more unadjusted service at the close of the fiscal year 1887 than at the close of either of the two previous fiscal years.

Had it been practicable to adjust the service to June 30, 1887, as closely as it was adjusted at the end of the fiscal year 1886, the ascertained increase in the annual rate of cost for the two years 1886 and 1887, would have been very nearly the same. At the close of the fiscal year 1886 there were 1,593 miles of unadjusted service and at the close of 1887, 4,195 miles, being an increase in the unadjusted service of 2,602 miles, which, had it been adjusted, is estimated would have increased the cost of the adjusted service on June 30, 1887, by \$130,000, making the rate of cost of adjusted service on that date \$23,000 more than at the close of the previous year. It was, however, not possible to adjust this service more closely owing to the great activity in railroad construction and the time required in obtaining the data necessary for making the adjustments under the law.

- Weighings were ordered on all railroads in the third section, composed of the States of Illinois, Iowa, Wisconsin, Minnesota, and Missouri, and also on new roads and extensions in other sections of the country, for thirty days from March 30, 1887, but after that time it became necessary to order service on a large number of new roads which could not be weighed the thirty successive working days required by law in time for the adjustments thereon to be made to June 30, 1887. The following table shows the amount of unadjusted service at the close of the past five fiscal years as compared with the miles of new service ordered in said years respectively:

Year.	New service.	Unadjusted service June 30.	Year.	New service.	Unadjusted service June 30.
	Miles.	Miles.		Miles.	Miles.
1882	8,994	8,449	1885	3,872	2,945
1883	9,645	7,234	1886	2,901	1,593
1884	6,952	9,026	1887	7,016	4,195

The readjustment of the rates of pay to all railroad companies in the States and Territories in which the contract term expired June 30, 1887, also in other States on new routes and extensions upon which pay had not heretofore been fixed, are set out in detail in Table H of this report. The regular readjustment from July 1 last occurred, as before stated, in the States of Illinois, Iowa, Wisconsin, Minnesota, and Missouri. These readjustments have all been completed, and they show a net increase in the annual rate of cost of service in those States of \$601,247, or 16.03 per cent. In the report of last year this increase was estimated at 12 per cent. These States are among the most populous in the country, and embrace several of the large trunk lines on which there was an increase in the weight of mails which has enhanced the percentage of increase in cost above the average weight of increase at regular quadrennial weighings, which average of rate of increase has heretofore been about 12 per cent.

The following table shows the average rate of cost per mile per annum based upon the aggregate length of routes for the years therein mentioned.

Years.	Length of route.	Total pay for transportation.	Average rate per mile per annum.	Years.	Length of route.	Total pay for transportation.	Average rate per mile per annum.
1880	85,320	\$9,237,945	\$108.27	1884	117,160	\$13,273,606	\$113.29
1881	91,569	10,249,261	111.92	1885	121,032	14,758,495	121.95
1882	100,563	11,297,333	112.34	1886	123,933	15,520,191	125.23
1883	110,208	12,288,799	111.50	1887	130,948	16,174,691	123.52

From the above it will be seen that there has been a decrease during the last fiscal year of \$1.71 in the average rate of cost per mile per annum in the length of routes. This decrease is in part attributable to the fact that the service was not as closely adjusted on June 30, 1887, as it was at the close of the previous year for the reasons above adverted to.

RAILWAY TRANSPORTATION AND RAILWAY POST-OFFICE CARS COMBINED.

The following tabular statement shows the annual rate of expenditure for railroad transportation and railway post-office cars combined for the last eight years:

Year.	Length of routes.	Increase in length of routes.	Per cent. of increase in length of routes.	Cost per annum.	Increase in cost per annum.	Per cent. of increase cost per annum.
	<i>Miles.</i>	<i>Miles.</i>				
1880.....	85,320	5,329	6.66	\$10,408,086	\$531,306	9.73
1881.....	91,563	6,249	7.32	11,613,308	1,114,382	10.61
1882.....	100,563	8,994	9.82	12,753,184	1,139,816	9.81
1883.....	110,208	9,645	9.59	13,887,800	1,134,616	8.89
1884.....	117,160	6,952	6.30	15,012,603	1,124,803	8.02
1885.....	121,032	3,872	3.30	16,027,983	1,615,380	10.76
1886.....	123,933	2,901	2.39	17,336,512	708,529	4.29
1887.....	130,949	7,016	5.66	18,056,272	719,760	4.15

It will be seen by the above statement that the increase in the annual rate of cost in these two items of expenditure, constituting together the largest single element of charge in the service during the last fiscal year, is but \$11,231 over the increase for the same items for the fiscal year ended June 30, 1886, while it is \$895,620 less than the increase in the same items for the fiscal year ended June 30, 1885. The percentage of increase of cost per annum during the above-mentioned period of eight years is shown in the table.

It was the policy and determination of the office to promptly meet the demands of the public for increased service by availing itself of the facilities of the railroads as speedily as these facilities were furnished. As has been already stated the increase in this branch of the service during the last fiscal year was 7,016 miles. Herewith is appended a statement showing in what States the largest part of this increase took place:

States.	Increase in number of routes.	Increase in length of routes.	Estimated increase in the annual rate of expenditure on account of this new service.
		<i>Miles.</i>	
Kansas.....	23	1,393.06	\$83,583.06
Nebraska.....	11	754.66	45,379.66
Texas.....	8	603.08	36,229.80
Illinois.....	6	576.48	34,588.80
Dakota.....	7	449.13	26,947.40
Minnesota.....	5	417.75	25,063.00
Iowa.....	5	335.35	20,121.00
Florida.....	6	271.00	16,263.00
Oregon.....	4	268.33	16,029.80
Total.....	73	5,089.44	304,166.40

In addition to this, and as illustrating the rapid increase in railroad service, it may here be mentioned that from July 1 to October 21, 1887,

956 miles of new service were ordered in Kansas, 189 miles in Nebraska, 278 miles in Dakota, 172 miles in Washington Territory, 155 miles in California, 496 miles in Texas, and 309 miles in the Indian Territory.

FAST MAIL—PITTSBURGH TO KANSAS CITY.

In March last contracts were made by you with the Pennsylvania Railroad Company and the Missouri Pacific Railway Company for a special postal fast train from Pittsburgh to Kansas City, to be run for a period of four years from March 14, 1887. The contract with the Pennsylvania Company provided also for a special fast train to be run in connection with the above from Columbus to Cincinnati, Ohio. The contract stipulated that all mail for points properly servable from said lines of railroad, and for the southwestern part of the country which, in the judgment of the Post-Office Department, could be as quickly, conveniently, and beneficially to the public sent upon these lines of road, should thereafter be transported thereon; that the company should provide an additional line of 60-foot postal cars to run from Pittsburgh to Kansas City, for which the legal compensation provided by law should be allowed; and that a reweighing of the mails should be had for thirty days from March 30, 1887, and compensation based thereon readjusted in accordance with the law from April 1, 1887. The mails on these lines were accordingly reweighed, and compensation adjusted in accordance with the terms of the contracts. The increase in the cost resulting therefrom was, for transportation \$154,233.26, and for railway post office cars, \$45,162, or a total cost of \$199,395.26.

For a full and detailed statement of the postal benefits secured by these contracts to a large and populous portion of the country I refer to the report of the General Superintendent of the Railway Mail Service. It may be briefly stated that it has expedited the eastern mails destined for Saint Louis six hours, and mail for all points west and southwest of Saint Louis from six to eighteen hours, or what is equivalent to a whole commercial day. The States thus beneficially affected embrace southwest Missouri, Kansas, southern Nebraska, and northern Texas, Colorado, and Utah, and the advantage of this fast mail extends as far west as San Francisco.

REQUIREMENTS FOR THE CURRENT YEAR.

The appropriation for the current year for railroad transportation is \$15,867,962. This is for the service exclusive of the amounts to be credited the subsidized Pacific railroads. This appropriation will probably fall short of the requirements of the service, by what amount I am unable at present to state with certainty, but it will approximate, if not reach, the sum of \$250,000. The large increase in the extension of railroad transportation and the great and unprecedented increase in the weight of mails in the third section, which were weighed last March, and the additional expense recently incurred for the fast mail from New York to Saint Louis, which was not contemplated at the time the estimate was made, will account for this anticipated deficiency.

ESTIMATE FOR 1889.

It is estimated that the sum of \$17,059,617 will be required for the transportation of the mails on railroads for the fiscal year ending June

30, 1889, being an increase over the appropriation for the current fiscal year of \$1,191,655. This large increase in the estimate for the next fiscal year is owing to the causes already adverted to, namely, the great increase in railroad extension and the consequent and necessary increase in railroad mail service, and also to the large increase in the weight of the mails. The regular quadrennial weighing will take place next year in the second section, embracing the States of North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Kentucky, Tennessee, Ohio, Indiana, and Michigan, and the adjustment of pay of railroad service in these States will go into effect July 1, 1888.

As my letter of estimates will explain, I have placed the increase in the rate of cost of the service in this section over the present rate at 14 per cent., which is moderate in view of the fact that the percentage of increase in the cost of railroad mail transportation in the third section, embracing the States of Illinois, Iowa, Missouri, Wisconsin, and Minnesota, which were weighed in March last, was 16.03 per cent., being 4 per cent. in excess of what was estimated for. As three of the States to be weighed next year, namely, Ohio, Indiana, and Michigan, are contiguous to the States in the third section, it may safely be inferred that the same conditions which have enhanced the cost of the service in that section, as above stated, exist and will be found to operate in these three States. There is every reason also to believe that a considerable increase will be found in the weight of the mails, and consequently in the increase in the cost in the Southern States comprised in the second section, especially in Tennessee, Kentucky, Georgia, and Alabama. This increase in the estimate for 1888-'89 over the appropriation for the current year is further explained by the fact that there will be, in all probability, a deficiency of about \$250,000 in the appropriation for the current fiscal year to meet the increased requirements of the service.

If we add to the appropriation for the current year the amount of this anticipated deficiency in this branch of the service, it will be seen that the difference between the estimate for the next fiscal year and the amount which will be actually required for the present fiscal year is \$941,655, which sum is but \$233,557 more than the average annual increase in the rate of cost for the past two years, and is abundantly accounted for by the large expansion of the railroad service and the general improvement of the business of the country during the current year, to which improvement no public agency is more sensitive and more quickly responds in increased service and increased expenditure than the postal service. What may be called the express business of this service, that is, the carrying by mail of packages of merchandise not exceeding 4 pounds in weight, has largely increased. This utilization of the postal service as an agent in the economy of distribution is rapidly growing in popularity and favor and expanding every year, and adds materially to the increase in the weight of the mails and the consequent increase in the rate of annual expenditure.

From the Auditor's books it appears that there was of the appropriation for the fiscal year ended June 30, 1887, an unexpended balance remaining at that date of \$888,150.06. There are, however, outstanding liabilities chargeable to this item of expenditure amounting, it is estimated, to about \$80,000, which, when deducted, will make the total unexpended balance for the last fiscal year about \$800,000.

RAILWAY POST-OFFICE CARS.

The annual rate of cost of railway postal cars on June 30, 1887, was \$1,881,581, as compared with \$1,816,321 on June 30, 1886. This shows an increase over the previous year of \$65,260, or 3.59 per cent. There was a decrease in the annual rate of cost in 1886 of \$53,167, thus making a net increase for 1886 and 1887 of but \$12,092, or an average for each year of \$6,046, whereas the annual average increase in cost, from 1881 to 1885, inclusive, was \$121,689, as will appear from the following table showing the increase or decrease in the cost of this service:

Year.	Cost.	Increase.	Decrease.	Increase.	Decrease.
				<i>Per cent.</i>	<i>Per cent.</i>
1880	\$1,261,041				
1881	1,364,107	\$103,066		8.17	
1882	1,465,851	91,744		6.73	
1883	1,599,001	143,150		9.53	
1884	1,738,997	139,996		8.76	
1885	1,869,488	130,491		7.50	
1886	1,816,321		\$53,167		2.84
1887	1,881,580	65,259		3.59	

The large reduction in the past two years in the average annual increase in rate of cost is principally due to the discontinuance in the fiscal year ended June 30, 1886, of pay for apartment postal-cars less than 40 feet in length, to which reference was made in the last annual report. It will be observed, however, that the annual rate of increase in the fiscal year ended June 30, 1887, which was not affected by the discontinuance of the pay for apartment cars, is only about one-half the average increase for the years from 1881 to 1885, inclusive.

A full and detailed statement of the operation of the railway postal car service for the past fiscal year will be found in the report of the General Superintendent of the Railway Mail Service and the tables annexed to his report. It will be seen by an examination of his report and the said tables that this important branch of the service is in a very efficient and satisfactory condition, and that the changes made by the present superintendent have improved this service. I cordially concur in the recommendation which he makes for an increase in the number of division superintendents in the Railway Mail Service. The rapid extension of the railway mail and post-office car service over the whole country, and the great increase in the weight of mail matter render this increase a matter of vital importance for the proper regulation and efficiency of the service.

I also concur in his recommendation to increase the salaries of the chief clerks attached to the offices of the various division superintendents from \$1,400 to \$1,500 per annum, and that an appropriation for an allowance not to exceed \$300 to each of the chief clerks to the division superintendents in this service be made to meet their expenses while traveling in the service of the Department. To these clerks is assigned, in addition to other duties, that of conducting the examinations of the railway postal clerks, which entails upon them considerable amount of travel during the year, and additional expense, which now is defrayed out of their limited salaries.

SPECIAL FACILITIES.

The appropriation for special facilities on trunk lines for the fiscal year ending June 30, 1888, is \$295,987.53, and the current expenditure on account of this fund is as follows :

Number of route.	Termini.	Railroad company.	Miles.	Pay.
5005.....	New York—Springfield.....	New York, New Haven and Hartford.	136. 00	\$17, 047. 00
6011.....	4.35 a. m. train.....	New York Central and Hudson River.	144. 00	25, 000. 00
10001.....	Philadelphia—Bay View.....	Philadelphia, Wilmington and Baltimore.	91. 80	20, 000. 00
10013 } part	Bay View—Quantico	Baltimore and Potomac	79. 80	21, 900. 00
11001 } part	Quantico—Richmond	Richmond, Fredericksburgh and Potomac	81. 50	17, 412. 25
11008.....	Richmond to Petersburg	Richmond and Petersburg	23. 39	4, 268. 67
11009.....	Petersburgh to Weldon.....	Petersburgh	64. 00	11, 690. 00
13002.....	Weldon to Wilmington.....	Wilmington and Weldon.....	162. 07	29, 577. 77
14002.....	Wilmington to Florence.....	Wilmington, Columbia and Augusta.....	110. 00	20, 078. 00
14005.....	Florence to Charleston Junction.	Northeastern.....	95. 00	17, 337. 00
14004.....	Charleston Junction to Savannah.	Charleston and Savannah	108. 00	19, 718. 00
15009.....	Savannah to Jacksonville.....	Savannah, Florida and Western.	171. 50	31, 296. 75
10006.....	Baltimore to Hagerstown.....	Western Maryland	86. 60	15, 804. 50
16018, 16007.....	Jacksonville to Tampa	Jacksonville, Tampa and Key West, and South Florida.	242. 57	44, 268. 62
Total .....	.....	.....	.....	295, 987. 53

I recommend an appropriation of the above total amount, \$295,987.53, for a continuance of this important service for the next fiscal year.

Attention is invited to the tables accompanying this report for full details respecting railroad service.

Table C shows the railroad service in operation on the 30th of June, 1887.

Table H shows the readjustment of the rates of pay per mile on railroad routes in States and Territories in which the contract term expired June 30, 1887, and also in other States and on certain new routes; the readjustment of the rates based upon returns of the weight of mails, and the speed at which they are conveyed; the accommodations for mails and postal agents, and the number of trips per week in accordance with the acts of March 3, 1873, July 12, 1876, and June 17, 1878.

Table I shows the rate of pay per annum for the use of railway post-office cars for the fiscal years ended June 30, 1886, and June 30, 1887, and the increase or decrease of 1887 as compared with 1886, and the reasons therefor.

Table K is a statement of expenditures on account of special facilities for the fiscal year ended June 30, 1887, out of \$291,000 appropriated by the act approved June 30, 1886.

Table L shows the number of miles of railroad mail service ordered from July 1, 1886, to June 30, 1887.

Table M gives statistics of mileage, increase in mileage, and annual transportation and cost of the railroad service from 1836 to June 30, 1887.

Before concluding this report I deem it my duty to call attention to the existing method of compensation for railroad transportation, and to reiterate the views on that subject which I had the honor to express in my last annual report.

Another year's experience in this office has only strengthened and confirmed these views and furnished additional evidence in support of the objections therein urged against the present system of payment for railroad service and in favor of a radical revision of the law of 1873, and the amendments thereto, on which the existing method of compensation rests.

Though by careful supervision of all the details of the service, and strictly insisting upon the performance of all the duties and obligations imposed by law on the railroads engaged in this service, and for other reasons hereinbefore stated, there has been a considerable and gratifying reduction in the increase in the rate of annual cost thereof, as heretofore shown, it is apparent on the other hand, and abundantly demonstrated by the tables submitted both in this and in my last annual report, that this large item of expenditure is steadily on the increase. This increase is due not only to the rapid extension of the railroads, but also to the constantly increasing weight of mails carried, and this increasing weight is the more important of the two factors entering into the question of cost, and goes on at a constantly accelerated pace, of which fact the recent increase of cost resulting from the weighing in the third section, hereinbefore referred to, furnishes a pregnant illustration. As I have before observed, it is difficult to state with any degree of exactness the annual tonnage of the United States mail carried on all the railroads in the United States, but that it is enormous may be inferred from the statement, that on seven of the great trunk-line routes there is carried an average daily weight of 578,984 pounds, or 289 tons.

Not only, however, is the existing method objectionable on the score of economy, but it is liable to further and perhaps graver objections. This branch of the service is not only more than doubled since the passage of the act of 1873, establishing the present rate and system of railroad compensation, but it has had a growth and development in directions and on lines of public usefulness which it is safe to say were hardly conceived of by the framers of that act. In the early legislation of Congress on this subject it was but natural that the old methods of mail transportation in use should be kept in view, and as little departed from as possible, and that only gradually. And on those methods of transportation the present system of railway mail compensation proceeds.

The character and requirements of the present service have undergone an entire change, and the method of adjusting the pay, therefore, is but ill adapted to the state of things resulting from this change. When a route was established under the old system reference was had mainly to the supply of points at the termini of the routes and the intermediate offices thereon, and without much regard to any connections to other and distant parts of the country or even of the same State. The present railway mail service can only properly be regarded as one vast, continuous, and unbroken system of postal communication in ceaseless operation, spanning the continent and reaching and distributing the mail to every part of it, and not as a collection or aggregate of separate, distinct, and independent routes, each one furnishing local supply within a limited territory at fixed periods and on designated schedules. It is manifest that a method of adjusting pay, based on the latter idea, can not be applicable to a system which is so altogether different in its objects and provisions. We have a number of through mail lines stretching from the Eastern cities to the Pacific coast, and from the Lakes to the Gulf. These furnish extraordinary facilities for the dispatch and distribution of the mails with every degree of speed

and frequency. Mails depart from, and arrive at, the great centers of trade and commerce not only daily but hourly, and even more frequently, and are carried with the same degree of frequency almost to every town of any considerable size and population throughout the country.

The present system of pay is liable also to another objection, and that is its want of a proper and equitable adjustment for the service performed between the Department and the railroads engaged in that performance. To illustrate both of these objections I will state that under the existing law a weighing takes place on every railroad in the United States once in every four years, and on the weight thus ascertained the pay of the road is fixed for four years ensuing from the 1st of July after such weighing. Now, the exigencies of the service are constantly requiring changes in the distribution of the mails, and it may, as it often does, happen that the weights thus ascertained may be very largely increased or diminished at any time during this period of four years. When this takes place, as it frequently does, the Department is under the necessity of reweighing the mails on the roads thus increased or diminished, at a very large cost, as the weighing must take place for thirty consecutive days over the routes thus affected by the change in distribution. Many such instances occurred during the last year.

Should space be the criterion of pay, as I have recommended (and this recommendation is enforced by the opinion and judgment of all those who have given any thought or study to this subject), it will only be necessary to ascertain the space thus increased or diminished, and readjust the pay on the roads affected by the change in distribution accordingly.

Again, under the existing law payments for apartment-car service is not allowed, that is, for apartments less than 40 feet. This service is required of the railroad companies without any compensation in addition to that which is given for weights, and this is the cause of the only attrition experienced by the Department with the railroads.

On many of the railroads, especially some of the short ones, and in very populous sections of the country, and where many trains are run daily and the mails are sent on all of these trains, a small amount of space only is required in each of the trains run, much less than 40 feet, which is the minimum of space in the railway postal service for which payment is authorized by the act of 1873, and it may be, and it is indeed the fact, that some railroads are furnishing this apartment-car service because of the number of trains which they run without any pay, while if they ran but one train, and all the space in the apartment cars which is necessary for the service were added together, it would in the aggregate amount to 40 feet, or perhaps upwards, and would thereby entitle the company to payment for such space, whereas under the present law they can get nothing for it.

While it can not be expected that any system that may be devised will prevent what is inevitable, namely, a constant and uniform increase in the cost of this service, in consequence of the steady increase in the demands of the public for the superior and increased facilities which this service furnishes, yet it is confidently believed that the substitution of space for weight as a gauge or measure of adjustment of the pay for this service will accomplish a reduction in the increase of the rate of such pay, and will enable the Department to more economically and equitably adjust that payment to the service actually performed. And therefore, in addition to a very considerable saving in

the rate of annual expenditure for this service which will thereby be achieved, the plan suggested will further advance the interests of the service by removing all present grounds of controversy between the Department and the railroad companies engaged in carrying the mails.

I believe we have reached a stage in this service which demands consideration of this important question, and to that end I have, therefore, the honor to renew the recommendations expressed in my last annual report in favor of a revision of the law on the subject of the compensation of railroads for mail service, and of the adoption of the plan, therein suggested and explained at length, of substituting space for weight as the measure of the value of the service performed and the basis of the compensation therefor.

In conclusion, I desire to express my obligations to the chiefs of division and to the clerical force generally for the intelligent and efficient assistance I have always received from them in the administration of the exacting and responsible duties of this office.

Very respectfully,

A. LEO KNOTT,

Second Assistant Postmaster-General.

Hon. WILLIAM F. VILAS, *Postmaster-General.*

REPORT OF THE GENERAL SUPERINTENDENT OF RAILWAY MAIL SERVICE.

NOVEMBER 11, 1887.

SIR: The accompanying tables show that at the close of the fiscal year ended June 30, 1887, mail service had been authorized upon 130,959.17 miles of railroad, postal clerks being employed distributing the mail on 116,609.05 miles, service on the remaining 14,350.05 miles being performed by closed pouches. At the same date there were in operation 41 inland steam-boat routes, aggregating 5,864.89 miles, on which postal clerks were employed. To properly handle and separate the mails while in transit there were employed on railroad routes 4,403, and on steam-boat routes 57, railway postal clerks, being a total of 4,460 men. While in the performance of their duty the postal clerks on railroads traveled (in crews) 107,067,643 miles, and those employed on steam-boats 1,868,747 miles.

While so traveling they distributed 5,834,690,875 pieces of ordinary mail matter, and protected, recorded, receipted for, and properly dispatched 15,752,569 registered packages and cases, and 950,613 through registered pouches and inner registered sacks.

During the year 7,213.38 miles of new railroad service have been added, being an increase of 5.83 per cent. The lines on which service was performed by clerks show an increase of 5,936.82 miles, or 5.37 per cent. Lines supplied by closed pouches were increased from 13,250.20 miles, at the close of the fiscal year 1886, to 14,350.05 miles on June 30, 1887, being an increase of 1,099.85 miles, or 8.30 per cent. The annual mileage of this class of service for 1886 was 12,835,297 miles; for 1887, 14,489,613 miles, an increase of 1,654,316 miles, or 12.87 per cent., and the number of pouches exchanged daily increased from 10,957 for the year 1886, to 11,714 at the close of 1887, being a daily increase of 757, or 6.90 per cent.

Compared with 1886 the number of inland steam-boat routes decreased from 43 to 41; the number of clerks employed thereon from 61 to 57, and the length of routes from 5,951.53 miles to 5,864.89, being a decrease of 86.64 miles, or 1.45 per cent., while the number of miles run by clerks increased from 1,854,281 miles in 1886 to 1,868,747 in 1887, being a gain of 14,466 miles, or 0.78 per cent.

The total number of clerks in the service at the close of the fiscal year 1886 was 4,573; on June 30, 1887, 4,851, being an increase of 278, or 6.08 per cent. The following exhibit presents in concise form the nature of service, the number of clerks engaged in each class of work, and the increase (or decrease) over 1886:

Fiscal year ended—	Employed on railroad lines.	Employed on steam-boat lines.	Detailed to transfer service.	Detailed to office duty.	Total.
June 30, 1886.....	4,141	61	206	165	4,573
June 30, 1887.....	4,403	57	218	173	4,851
Increase	262		12	8	290
Decrease		4			

* Including 15 vacancies existing June 30, 1886.

In 1886 there were handled by clerks in the Railway Mail Service, of letters, ordinary mail matter, registered packages, through registered pouches, and inner registered sacks, 5,345,846,044. In 1887, 5,851,394,057; being an increase of 505,548,013 pieces, or 9.46 per cent.

In reporting upon the condition of the Railway Mail Service for the fiscal year ended June 30, 1874, the then General Superintendent, Mr. George S. Bangs, said:

Each railway post-office clerk, route agent, or post-office clerk, in making a distribution, is required to attach to each package of letters he makes up a facing label-slip bearing the address of the package, the office or route upon which it was made up, with the name of the clerk making the distribution.

The clerk receiving and opening this package is required to note upon these slips all errors of any kind, if any, and forward the slips to the superintendents of their respective divisions, where a record is kept of the work performed by each clerk.

Below are given the returns of the slips made on the railway post-offices alone, for the month of June 1873 and 1874:

June 1873: Number of letters distributed right to each one wrong..... 796
 June 1874: Number of letters distributed right to each one wrong..... 1,500

A very marked improvement. In this manner a check is kept upon each clerk, and the poor, careless, or inefficient ones soon discovered and made to perform better work or make place for those that will. For it is useless to undertake to give the people what they demand, absolute certainty in their mail facilities, unless those who have the handling of the mails can be educated or controlled in some manner.

The system of checking which is mentioned above has continued, and has, wherever faithfully observed, been productive of much good, but for many years it has been the opinion of those best acquainted with the workings of this service that a tacit understanding existed between clerks on certain lines to check no errors against clerks on connecting lines, it being expected that the connecting clerks would "reciprocate." Steps were taken in the early part of the fiscal year to detect and break up this practice, and positive proof having been secured against one clerk, he was, on November 17, 1886, removed by the Postmaster-General, and the next day the following notice was published in the Daily Bulletin:

A practice exists with some clerks to refrain from checking errors against connecting lines, with a view to forcing reciprocal action on the part of clerks on such lines, and thereby protecting their own records. This is not only in violation of section 729 of the Instructions, but one peculiarly threatening to the discipline and efficiency of the service, and will not be tolerated in the least.

The Postmaster-General has this day directed the removal of a clerk in the Fourth Division for failure to comply with the regulations in this respect, the fact, indeed, being admitted by the clerk, who sought only to excuse it.

This summary action, followed as it was by a more vigilant inspection of each man's record, has, it is believed, secured a more general and impartial checking of errors by postal clerks against each other and

against postmasters than has heretofore prevailed; the result being that the number of errors checked during 1887 is much greater than for 1886. During the latter year 5,329,521,475 pieces of all classes of mail matter were handled and 1,260,443 errors checked, showing that 99.98 per cent. of all mail handled was correctly distributed, or, to state it in a different form, of every 4,229 pieces handled 4,228 were correctly dispatched and 1 piece incorrectly. In 1887 the number of pieces handled was 5,851,394,057, and the number of errors checked 1,734,617, being a correct distribution of 99.97 per cent. of all mail handled, or one error to every 3,373 pieces.

To show more clearly that the cause assigned for this increase in the number of errors checked is the correct one, the record of case examinations held during the year, of both permanent and probationary clerks, is given, and a comparison with similar examinations for 1886 made:

Statement of case examinations of permanent railway postal clerks for the fiscal year ended June 30, 1887.

Division.	Examina- tions.	Cards handled.	Cards correct.	Cards incorrect.	Cards not known.	Average per cent. correct.
First.....	841	511,950	505,877	5,063	105	98.81
Second.....	1,367	1,741,445	1,738,518	137,552	365,375	71.10
Third.....	340	429,862	373,690	24,319	31,863	86.93
Fourth.....	419	266,099	194,788	8,211	3,100	94.51
Fifth.....	921	958,499	912,477	42,740	3,282	95.20
Sixth.....	698	965,522	911,523	19,066	34,993	94.40
Seventh.....	1,077	701,004	657,179	36,431	7,394	93.74
Eighth.....	431	222,649	208,197	10,637	3,815	95.50
Ninth.....	483	780,620	790,927	62,376	27,317	89.79
Total.....	6,977	6,517,656	5,703,176	337,240	477,234	87.5
Total, as per report for fiscal year ended June 30, 1886.....	5,962	6,572,130	5,364,972	329,953	877,205	81.61
Increase.....	615	*54,480	338,204	7,287	*399,071	5.89

* Decrease.

Statement of case examinations of railway postal clerks during probation for the fiscal year ended June 30, 1887.

Division.	Probationary ap- pointees.	Examinations.	Cards handled.	Cards correct.	Cards incorrect.	Cards not known.	Average correct.	Probationers who re- ceived permanent ap- pointments.	Average correct during probation made by those permanently ap- pointed.	Dropped during proba- tion, including those permitted to resign.	Probationary appoint- ees who failed to pass final examinations.
							<i>P. ct.</i>		<i>P. ct.</i>		<i>P. ct.</i>
First.....	73	165	100,458	92,160	7,590	708	91.74	73	91.66	12	16.44
Second.....	234	795	473,977	293,021	42,279	138,677	61.82	53	69.30	76	32.47
Third.....	66	232	233,445	171,045	25,122	37,278	73.26	49	78.38	27	40.90
Fourth.....	123	258	163,140	143,160	17,594	2,386	87.75	45	93.08	21	16.40
Fifth.....	271	1,074	887,450	823,783	54,223	9,453	92.82	106	94.34	61	67.75
Sixth.....	291	743	890,117	676,912	123,604	59,601	78.69	178	82.32	59	26.12
Seventh.....	229	751	551,053	450,398	59,875	37,780	82.27	134	87.27	52	22.70
Eighth.....	32	87	51,878	43,808	5,017	3,053	84.44	16	87.71	7	45.71
Ninth.....	125	377	309,331	246,952	31,751	30,628	79.83	34	84.04	26	20.80
Total.....	1,449	4,442	3,630,858	2,944,239	307,055	319,564	81.09	778	85.34	341	23.53
Total as per re- port for fiscal year ended June 30, 1886.....	1,516	5,113	4,032,678	3,093,311	412,358	527,009	76.70	890	82.68	420	28.29
Decrease.....	67	631	401,820	149,072	45,303	207,445	*4.39	112	*2.66	88	3.76

* Increase.

The above tables show that the clerks holding permanent appointments increased their percentage of cards correctly handled from 81.61 in 1886 to 87.5 in 1887, and probationary clerks who received permanent appointments from 82.68 in 1886 to 85.34 in 1887.

Believing that the best interests of the service require that every clerk making an error should have it checked against him, in order that the Department may know which clerks are competent, careful, and worthy of retention, and which are so incompetent that their services may well be dispensed with, the duty of continuing to check impartially will be urged upon all clerks, and the failure of a clerk to discharge this duty will be ground of recommendation for his dismissal.

In 1886 798,571 through registered pouches (including inner registered sacks) were handled by postal clerks, and in 1887, 950,613, being an increase of 152,042 pieces, or 19.04 per cent., while the registered packages and cases handled, increased from 15,525,998 in 1886 to 15,752,569 in 1887, being an increase of 226,571 pieces, or 1.46 per cent. The necessity for relieving postal clerks of the care and handling of heavy cases of supplies has often been brought to the attention of Congress, but no action was taken until the last session, when authority was granted the Postmaster-General to send by freight from the manufactories to post-offices and depots of distribution, postal cards, stamped envelopes, and stamped paper. This measure will, when put in full operation, give more room and time for distributing and storing the ordinary mail; relieve the already overworked clerks from much heavy lifting, and in the end result in saving to the government a considerable sum of money.

The record of city letters distributed by postal clerks during the year shows that that class of work has greatly increased, as will more clearly appear from the following comparative statement:

	Packages distributed.	Incorrect slips.	Errors.	Letters distributed.	Papers.
1887	1,906,858	6,117	18,705	147,537,232	21,682
1886	1,727,031	11,399	24,275	129,025,155	25,328
Increase.....	239,827	*5,282	*5,570	18,512,077	*2,446

* Decrease.

The year just closed has been marked by many casualties, there having been 244 derailments, or wrecks of trains, on which postal clerks were employed. In these wrecks three clerks were killed, namely:

C. M. Tennis, St. Paul and Bismarck R. P. O.; burned in wreck near Muskoda, Minn., December 1, 1886.

E. Magoffin, St. Louis and Atchison R. P. O.; neck broken in wreck near Greenwood, Mo., November 26, 1886.

A. A. Perrino, Hightstown and Philadelphia R. P. O.; burned in wreck at New Sharon, N. J., March 8, 1887.

Two other clerks met accidental death while in the discharge of their official duties:

Harry Dixon, Greenville and Columbus R. P. O., while trying to make a catch, at Stinson, Ga., fell from his car and had his skull broken, from the effects of which he died.

Marshal Ney, Albany and New York R. P. O., detailed as transfer clerk at Troy, N. Y., was accidentally knocked down and killed by a train in the Troy depot, July 9, 1886.

In addition to the above fatalities 45 clerks were seriously and 72 slightly injured. Fifty clerks were so badly injured that acting clerks were provided by the Department to keep up their runs. The salaries of such acting clerks amounted to \$7,000.43. In addition to those mentioned, acting clerks had to be provided for 13 clerks injured during 1886, who were not able to resume service at the commencement of the fiscal year, the amount paid out on account of the casualties occurring in 1886 being \$4,800.40.

These men met disability and death in their country's service as truly as ever patriot met his fate on the field of battle, and in view of the constant dangers which threaten them it seems that Congress should make some provision for their care in case of total disability, or for those dependent upon them in case of death. The recommendations of the Postmaster-General in his report for the fiscal year ended June 30, 1885, seem both just and humane and well deserve a place in our statutes.

By the act approved June 17, 1878 (which provided for the employment of one general superintendent and nine division superintendents), Congress recognized the necessity for constant, close, and careful supervision of the Railway Mail Service and the clerks engaged in the distribution of the mails, and to this close supervision must be mainly awarded the credit for the present magnificent organization. But it is evident that the service has, during the past nine years, increased to such an extent that the close personal supervision imperatively required can not longer be given unless additional division superintendents are authorized.

The following table will illustrate the growth of this service from the year in which these nine division superintendents were authorized to the close of the fiscal year under review :

Comparative statement of the Railway Mail Service showing the increase in mileage, etc., for the fiscal year ended June 30, 1887, over the corresponding period of 1878-'79.

Fiscal year ended—	Miles of railroad over which mails were carried.	Steam-boat routes over which mails were carried.	Annual transportation of mails by railroads.	Length of railway post-office lines.	Annual miles of service by railroad post-office lines.	Number of railway postal clerks.	Number of pieces of mail matter handled by railway postal clerks.	Number of post-offices in the United States.
		<i>Miles.</i>	<i>Miles.</i>	<i>Miles.</i>				
June 30, 1887.....	130,959.17	10,597.12	169,639,865	116,609.12	107,067,043	4,851	5,851,394,057	55,157
June 30, 1879.....	73,991.00	21,240.00	93,092,992	78,146.50	52,419,773	2,609	2,639,057,540	40,855
Increase.....	50,968.17	10,642.88	76,596,873	38,462.62	54,647,870	2,242	3,192,336,517	14,302
Increase in per cent.....	63.71	150.10	82.28	49.22	104.25	85.98	120.05	35

* Postal clerks, route agents, mail route messengers, and local mail agents.

† Decrease.

In addition to the expansion and extension shown in the above statement it should also be borne in mind that the railroad schedules, junction points, and sources of supply for post-offices are created in an increased ratio by the construction of new lines, and make it the more necessary for the Superintendent to have promptly and properly prepared schemes of distribution for the guidance of postal clerks and postmasters, and

more imperative that he have certain knowledge that these schemes are studied and understood.

The number of postal clerks and number of miles of railroad on which service is performed in each of the divisions as at present organized is as follows:

Miles of service on railroad, steamboat, and closed-pouch lines during the fiscal year ended June 30, 1887.

Division.	Miles of railroad over which clerks run.	Miles of steamboat routes upon which clerks run.	Closed-pouch service.	Total mileage.	Number of clerks appointed to lines.
			<i>Miles.</i>		
First	5,097.19	-----	1,111.02	6,208.21	406
Second	11,804.69	142.50	2,659.85	14,607.14	697
Third	5,976.69	1,586.00	569.63	8,132.32	290
Fourth	11,487.37	2,639.25	1,292.68	15,419.45	391
Fifth	16,180.28	742.64	687.22	17,610.09	815
Sixth	31,639.71	-----	3,265.22	34,904.93	1,037
Seventh	21,902.19	279.50	2,401.68	24,583.37	663
Eighth	6,340.35	475.00	1,753.01	8,568.36	154
Ninth	6,180.70	-----	606.94	6,787.64	441
Total	116,609.12	5,864.89	14,350.05	136,824.06	4,851

It will be noted by this table that several divisions have grown to such proportions as to render it utterly impossible for any one man to give them that careful personal supervision which is necessary to insure such prompt and efficient service as the public has a right to expect, and it is therefore recommended that two additional superintendents be authorized.

In each division certain postal clerks of class 5 are assigned to duty as chief clerks of the Railway Mail Service, their headquarters being located at some central point at which many railway post-office lines terminate, or from which they may be easily reached. Their duties are to "examine the men under their charge; to see that they perform all the duties required of them properly and thoroughly; that the schemes furnished are kept corrected, and that all orders issued by the General Superintendent and division superintendents are promptly executed. All irregularities, insubordination, inefficiency, and lax morality occurring on routes under their charge must be reported to their division superintendents at once."

In the performance of these duties the chief clerk must travel a great deal, and for his expenses while on the road he is not reimbursed, as is done in the case of other Government officers, but must pay them out of his salary of \$1,400. This is not only unjust to these men but also a detriment to the service, for in many instances where a personal inspection should be made, the chief clerk endeavors to settle the matter by correspondence rather than reduce his salary by incurring the increased expenditure incident to such inspection. In other words, the more useful the chief clerk makes himself by traveling about inspecting lines, examining, instructing, and encouraging the men, the greater will be his expenses, and, consequently, the less his salary.

One of the best chief clerks in this service has informed me that for a week at a time while out inspecting the service he has been forced to get what sleep he could by lying on a pile of mail sacks, feeling that if he patronized the sleeping-car each night his expense account would foot up

more than his salary. The best men in the service being selected for these positions, they are, as a rule, possessed of more than the average amount of executive ability, and from their apprenticeship on the road are well versed in the distribution and dispatch of mail. They certainly earn more money than is now paid them, and when an increase in their compensation is authorized by Congress, whatever salary is provided should be *net*. A change in the law granting \$1,500 per annum, and actual expenses while traveling on the business of the Department (but in no case to exceed \$300 during any fiscal year), would seem fair, and I earnestly recommend that this change be made.

No provision has ever been made for a chief clerk in the office of the General Superintendent of the Railway Mail Service, and the duties properly assignable to such an officer have heretofore been performed by a railway post-office clerk of class 5 (salary \$1,400 per annum) detailed for the purpose. When the magnitude and importance of this service is considered in connection with the fact that other chief clerks in the Department receive \$2,000 and that Departmental clerks of classes 2 and 3 receive \$1,600 and \$1,800 per annum, respectively, the inadequacy of compensation in proportion to duties and responsibilities becomes more patent. It is therefore respectfully recommended that Congress be asked to provide for one chief clerk of the Railway Mail Service at a salary of \$2,000 per annum.

In his report for the fiscal year ended June 30, 1882, the General Superintendent called attention to the desirability of bringing into general use printed facing slips, and stated that by an expenditure of not over \$1,000 at each division headquarters, a press, paper-cutter, type, etc., could be purchased, and postal clerks could be detailed to print and issue the slips as needed; and he requested that "Congress be asked to authorize the Postmaster-General to expend out of the appropriation for the transportation of the mails by railroads, not to exceed \$9,000, for the purchase of presses, paper-cutters, and printing material, to be used at the several division headquarters in printing facing slips for the service."

Though the Postmaster-General called attention to this recommendation, Congress took no action upon it. The necessity for having this printing done, and at division headquarters, seems to have suggested a way by which the desired result was attained. Men were engaged as postal clerks with the understanding that they were to furnish (at their own expense) certain presses, paper-cutters, type, etc., and do all necessary printing for the division in which they were located. While it is absolutely necessary that some provision be made for having this printing done, the method by which it is now secured seems without warrant of law, and I deem it my duty to bring the matter to your notice that you may take such steps as you think proper, either to secure the sanction of Congress for a continuance of the present system, or the adoption of such other method as may appear best for this service.

Below find a table showing the present annual expenditure for salaries of clerks engaged in this work at the different division headquarters where printing offices have been established:

Printing office of—	\$1,300.	\$1,150.	\$1,000.	\$900.	\$800.	\$720.	\$700.	\$650.	\$300.	Annual compensation of clerks detailed to printing offices.
General Superintendent ..	(*)		1	1	12	1				\$4,220
First Division		1								1,150
Fourth Division			1					1		1,650
Fifth Division		1							1	1,450
Sixth Division		1					1			1,650
Seventh Division		1								1,150
Eighth Division	1									1,300
Ninth Division		2		1						3,200
Total	1	6	2	2	2	1	1	1	1	15,970

* Government owns plant.

† Acting clerk.

It may be well to state that at the printing office located in the basement of the Department building, and in the above statement charged to the General Superintendent's office, the printing for the Third Division is done, and, in addition thereto, the Daily Bulletin and all reference slips required by this office. While an accurate account of the amount of work done by each printer has been kept, the system has not been uniform, and it is, therefore, impossible at this time to give a tabulated summary; but to remedy this, a new form has recently been prepared which requires from division superintendents a monthly statement of material furnished to and work done by each printer, and as the same form will be used in all divisions a concise statement can be submitted in future reports.

No extra compensation is paid for this high rate of speed, the companies gaining through the heavier mails which are diverted to their lines, and the additional postal cars required, a compensation which is considered ample. The lines between New York and Chicago, Chicago and Council Bluffs, and Chicago and Saint Paul and Minneapolis have been in operation for several years, but that to Saint Louis and Kansas City was not inaugurated until March 12 of the present year. The advantages gained by this change are of the greatest importance to mails for the West, Southwest, and far West. By it mails leaving New York at 7.30 p. m. arrive in Saint Louis the second morning at 2.45, and leave at 3 a. m., a gain of six hours. As will be noted from the above schedule, the fast mail on the Missouri Pacific Railway leaves Saint Louis at 3 a. m. (or fifteen minutes after the arrival of the fast mail from the East, being barely time enough to transfer the mails from one train to the other), and arrives in Kansas City at 11 a. m., where connection is made with outgoing trains.

The managers on some of the New England roads have refused to furnish the space or apartment in a car necessary for the proper distribution of the mails, and as a result this branch of the service has been caused some embarrassment in that section, and the people living adjacent to such lines given just cause for complaint. All papers relating

to these cases have been referred to your office for such action as might be deemed proper by you. The cases above referred to, and a few others of minor importance, are the only instances where the relations between the Department and the railroads have not been of the pleasantest and most harmonious character, and as a result the service is in as good if not better shape than ever before.

ESTIMATES AND EXPENDITURES.

The amount appropriated for railway post-office car service, exclusive of the gross amount accrued to Pacific roads for the fiscal year ended June 30, 1887, was..... \$1,808,000.00
 Amount expended 1,713,391.92
 Leaving an unexpended balance of 94,608.08
 Add to the above expenditure the amounts accrued to the Pacific roads. 126,375.21
 And we have the total cost for railway post-office cars during the year. 1,839,767.13
 Compared with 1886 this is an increase of \$23,868.23, being 1.32 per cent.

The following table shows in concise form the growth of this branch of the service from July 1, 1879, to June 30, 1887:

Statement showing the cost of railway post-office car service from July 1, 1879, to June 30, 1887.

Year ended June 30—	Amount of appropriation.	Amount expended.	Expenditure.		Per cent.		Gross amount ac- crued to Pacific railroads.
			Increase.	Decrease.	Increase.	Decrease.	
1879, no separate appropriation made.							
1880	\$1,250,000.00	\$1,141,545.19					91,851.15
1881	1,366,000.00	1,268,221.50	\$126,676.31		11.09		110,381.23
1882	1,426,000.00	1,317,242.23	49,020.73		3.86		124,373.66
1883	1,526,000.00	1,483,086.85	165,844.62		12.59		131,690.17
1884	1,575,000.00	1,585,597.29	102,510.44		6.89		135,790.20
1885	1,625,000.00	1,716,437.13	130,839.84		8.25		134,542.92
1886	1,765,028.00	1,692,025.30		\$24,411.83		1.42	123,873.60
1887	1,880,000.00	1,713,391.92	21,866.62		1.26		126,375.21
	12,413,026.00	11,917,547.41	596,258.50	24,711.83	43.94	1.42	
Decrease					1.42		
					42.52		
Average per cent per year.....					6.08		

It will be noted that excluding amounts accrued to the subsidized Pacific roads and branches the average annual increase for seven years has been 6.08 per cent., while for the year under review it was but 1.26 per cent. It should also be noted that in making up this average increase 1886 is included, though in that year there was an actual decrease of 1.42 per cent. owing to the discontinuance of payment for apartment cars less than 40 feet in length.

The annual rate of cost for railway post-office lines (exclusive of amounts to be credited the subsidized Pacific lines) was on July 1, 1887, \$1,745,771.98. Carefully compiled data indicates that during the current fiscal year additional lines costing \$173,594.20 per annum will be needed, and if these are authorized the annual cost on July 1, 1888, will be \$1,919,366.18. With these lines established but a moderate expansion during the following year need be anticipated. Five per cent. increase over the appropriation for the current year seems to be moderately liberal, viz:

Appropriation for fiscal year ending June 30, 1888..... \$1,934,565.00
 Add 5 per cent 96,728.00

Making a total of..... 2,031,293.00

And I have the honor of recommending that this sum be appropriated for payment of railway postal lines *exclusive of lines on the subsidized Pacific roads* for the fiscal year ending June 30, 1889.

As previously stated in this report, the number of railway postal clerks in the service on June 30, 1886, was 4,573, and on June 30, 1887, 4,851, being an increase of 278, or 6.08 per cent. The amount paid for salaries during the former period was \$4,467,778.08; during the latter, \$4,694,561.75, being an increase of \$226,783.67, or 5.08 per cent. The amount appropriated for salaries of postal clerks for the fiscal year ended June 30, 1887, was \$4,800,000, and the expenditures amounted to \$4,694,561.75, leaving an unexpended balance of \$105,438.25. The annual rate of expenditure for salaries of railway postal clerks was, on July 1, 1887, \$4,827,466, and the appropriation for the fiscal year ending June 30, 1888, \$4,990,240.62, leaving a margin of but \$162,774.62 for extension of service, additional help on lines where mails are getting heavier, and the promotion of clerks who were serving as probationers at the beginning of the fiscal year. Under ordinary circumstances this margin might be abundant, but the present unusual activity in railway construction makes it appear probable that a slight deficiency must be incurred. The following table shows the increase by quarters since July 1, 1885:

Per cent. of increase in expenditures on account of salaries of railway postal clerks for the period from July 1, 1885, to June 30, 1887.

Quarter ending—	Expenditure.	Increase. amount.	Increase per cent.
June 30, 1885.....	\$1,087,683.75		
September 30, 1885.....	1,085,060.11	\$2,623.64	.24
December 31, 1885.....	1,105,093.86	20,033.75	1.85
March 31, 1886.....	1,136,448.86	31,355.00	2.84
June 30, 1886.....	1,141,175.25	4,726.39	.41
September 30, 1886.....	1,145,989.67	4,814.42	.42
December 31, 1886.....	1,160,202.22	14,212.55	1.24
March 31, 1887.....	1,182,510.39	22,307.47	1.92
June 30, 1887.....	1,205,848.77	23,338.38	1.98
Deduct decrease.....			10.66
			.24
			10.42
Average quarterly increase.....			1.30

* Decrease.

SUMMARY.

1885-'86.	1886-'87.
Third quarter, 1885.....	\$1,145,938.67
Fourth quarter, 1885.....	1,160,202.22
First quarter, 1886.....	1,182,510.39
Second quarter, 1886.....	1,205,848.77
	4,694,561.75
	4,467,778.08
	Increase 1887 over 1886..... 226,783.67
	or 5.08 per cent.

Taking the average quarterly increase of 1.30 per cent. and applying it to the fiscal year ending June 30, 1888, and we have the following:

Amount expended quarter ended July 1, 1887.....	\$1,205,848.77
Estimate third quarter, 1887.....	1,221,524.78
Estimate fourth quarter, 1887.....	1,237,404.60
Estimate first quarter, 1888.....	1,253,490.65
Estimate second quarter, 1888.....	1,269,886.23
Total.....	4,982,306.46

This is but \$7,934.16 less than the amount appropriated. Assuming that the expenditure for the quarter ending June 30, 1888, will be \$1,269,886.23, and applying a quarterly increase of 1.30 per cent., we have the following as the probable cost for the fiscal year ending June 30, 1889:

Third quarter, 1888	\$1,286,394.75
Fourth quarter, 1888	1,303,117.88
First quarter, 1889	1,320,058.41
Second quarter, 1889	1,337,219.17
Total	5,246,790.21

This is an increase of \$264,483.75, or 5.30 per cent., over the appropriation for the fiscal year ending June 30, 1888, but the data above given warrants the belief that the service can not be properly performed for a less sum, and I therefore recommend that this amount, \$5,246,790.21, be appropriated for the payment of salaries of railway post-office clerks for the fiscal year ending June 30, 1889.

* * * * *

T. E. NASH,
General Superintendent.

Hon. A. LEO KNOTT,
Second Assistant Postmaster General.

REPORT OF THE THIRD ASSISTANT POSTMASTER-GENERAL.

POST-OFFICE DEPARTMENT,
OFFICE OF THIRD ASSISTANT POSTMASTER-GENERAL,
Washington, D. C., November 5, 1887.

SIR: In the following report of the operations of this office for the fiscal year ended June 30, 1887, which I have the honor to submit, the facts are given from personal knowledge for only a portion of the year—that which is comprehended in the period from April 1, 1887, the date of my appointment, to June 30; but I take pleasure in saying that I have found the system under which the office has been conducted to be so excellent, and the manner in which the business is performed to be so systematic and correct, that I am able to present the report with the same confidence that I should feel if my incumbency had extended over the whole year.

In submitting this report I beg leave to refer particularly to the tables appended to it, which, containing as they do some of the essential parts of the report in condensed statistical form, are worthy of special attention. The following is a list of them:

No. 1. Explanation of estimates of appropriations for the office of the Third Assistant Postmaster-General for the fiscal year ending June 30, 1889.

No. 2. Statement showing itemized appropriations for the service of the Post-Office Department for the fiscal year ending June 30, 1887, and the expenditures made out of the same.

No. 3. Statement exhibiting the receipts and expenditures, under appropriate heads, by quarters, for the fiscal year ending June 30, 1887, compared with the receipts and expenditures of the fiscal years ending June 30, 1885, and June 30, 1886.

No. 4. Statement showing receipts and disbursements at Treasury depositories during the fiscal year ending June 30, 1887.

No. 5. Statement showing the issue in detail of all the several kinds of adhesive postage-stamps, stamped envelopes, newspaper wrappers, and postal cards for the fiscal year ending June 30, 1887.

No. 6. Statement showing the issue of postage stamps, stamped envelopes, newspaper wrappers, and postal cards, by denominations, for the fiscal year ending June 30, 1887.

No. 7. Statement showing the increase in the issues of postage-stamps, stamped envelopes, newspaper wrappers, and postal cards for the year ending June 30, 1887, as compared with those of the previous year.

No. 8. Value of postage-stamps issued by fiscal years from their introduction to June 30, 1887.

No. 9. Statement, by fiscal years, of the issues of stamped envelopes from their introduction to June 30, 1887.

No. 10. Statement, by fiscal years, of the number of postal cards issued from their introduction to June 30, 1887.

No. 11. Comparative statement of second-class matter mailed at first-class post-offices, 1885-'86 and 1886-'87.

No. 12. Statement showing the number of registered letters and parcels transmitted through the mails from each of the several States and Territories in the United States during the fiscal year ending June 30, 1887.

No. 13. Statement showing the increase of registered letters and parcels upon which fees were collected at thirty of the leading cities during the fiscal year ending June 30, 1887, over the number registered during the preceding year.

No. 14. Statement showing the operations of the registry system at the cities of New York, Philadelphia, Chicago, Saint Louis, and Washington during the fiscal year ending June 30, 1887.

No. 15. Statement showing the number and value of registered letters and parcels carried for the several Executive Departments during the fiscal year ending June 30, 1887.

No. 16. Statement showing the operations of the special-delivery system during the year ending September 30, 1887.

No. 17. Contract for furnishing registered-package, tag, official, and dead-letter envelopes during the fiscal year ending June 30, 1888.

STATEMENTS OF FINANCIAL OPERATIONS.

Continuing the excellent plan inaugurated by my predecessor, I present the following condensed statements of the financial operations of the Department, not only for the past fiscal year, but for the two prior years, the object of taking in these two years being to include in the statements all expenditures made on account of each year subsequent to its termination, and consequently not included, except by way of estimation, in any previously published statement. In this respect the statements differ from the Auditor's statements, as well as in the fact that they include, as a part of the cost of the postal service, amounts learned by the Pacific railroad companies in the transportation of the mails, which, under the law, instead of being paid in money, are certified to the Secretary of the Treasury for credit in the accounts between the Government and the companies.

FISCAL YEAR ENDING JUNE 30, 1885.

REVENUE.	
1. Ordinary postal revenue.....	\$42, 151, 910.53
2. Receipts from money-order business.....	408, 933.30
Gross revenue	42, 560, 843.83
EXPENDITURES AND LIABILITIES.	
Expenditures:	
From July 1, 1884, to September 30, 1885.....	\$49, 317, 188.41
From October 1, 1885, to September 30, 1886....	189, 149.15
From October 1, 1886, to September 30, 1887....	26, 811.99
Liabilities:	49, 533, 149.55
Amount of outstanding liabilities for various objects on account of the year.....	\$1, 639.10
Amount payable to Pacific railroads under decision of the Supreme Court	247, 830.44
	249, 469.54
	49, 782, 619.09
Deficiency in revenue	7, 221, 775.26

REPORT OF THE POSTMASTER-GENERAL.

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COST OF POSTAL SERVICE.

Amount of expenditures and liabilities as above	\$49,782,619.09
Obligations certified to Secretary of the Treasury for credit to Pacific railroads, from July 1, 1884, to September 30, 1885	\$1,340,226.83
From October 1, 1885, to September 30, 1886	3,980.61
From October 1, 1886, to September 30, 1887	544.68
	<u>1,344,752.12</u>
Less amount erroneously certified as appears by de- cision of the Supreme Court, and transferred to outstanding liabilities, as above	247,830.44
	<u>1,096,921.68</u>
Total cost of service	<u>50,879,540.77</u>
Excess of total cost of postal service over revenue	<u>8,318,696.94</u>

The receipts were \$7,221,775.26, or 14.5 per cent., less than the expenditures and outstanding liabilities, and \$8,318,696.94, or 16.3 per cent., less than the total cost of the postal service, inclusive of the amount certified to the Secretary of the Treasury for mail transportation on Pacific railroads.

Compared with the previous fiscal year, there was a decrease of \$756,659.15, or 1.7 per cent., in the receipts; an increase of \$2,522,694.05, or 5.3 per cent., in the expenditures and liabilities; and an increase, also, of \$2,269,998.86, or 4.6 per cent., in the estimated total cost of the service.

FISCAL YEAR ENDING JUNE 30, 1886.

REVENUE.

1. Ordinary postal revenue	\$43,597,871.08
2. Revenue from money-order business	350,551.87
Total gross receipts	<u>43,948,422.95</u>
Deduct amount charged to bad debts	12,174.25
Leaves total revenue	<u>43,936,248.70</u>

EXPENDITURES AND LIABILITIES.

Expenditures:	
From July 1, 1885, to September 30, 1886	\$50,627,553.37
From October 1, 1886, to September 30, 1887 ...	211,881.50
	<u>50,839,434.87</u>
Liabilities:	
Estimated amount of outstanding indebtedness for various objects on account of the year	\$2,500.00
Amount due for transportation on Pacific railroads, for which no ap- propriation was made	251,101.61
	<u>253,601.61</u>
	<u>51,093,036.48</u>
Deficiency in revenue	<u>7,156,787.78</u>

PAPERS ACCOMPANYING THE

COST OF POSTAL SERVICE.

Amount of expenditures and liabilities as above.....	\$51,093,036.48
Amount certified to the Secretary of the Treasury for credit to Pacific railroads, from July 1, 1885, to September 30, 1886.....	\$1,112,138.40
From October 1, 1886, to September 30, 1887.....	391.22

Total amount certified 1,112,529.60

Total cost of the service 52,205,566.10

Excess of total cost of postal service over revenue..... 8,269,317.40

The receipts were \$7,156,787.78, or 14 per cent., less than the expenditures and outstanding obligations, and \$8,269,317.40, or 15.8 per cent., less than the total cost of the postal service, inclusive of the amount certified to the Secretary of the Treasury for transportation of the mail on Pacific railroads.

Compared with the previous fiscal year, there was an increase of \$1,375,404.87, or 3.2 per cent., in the net revenue; an increase of \$1,310,417.39, or 2.6 per cent., in the expenditures and liabilities; and an increase, also, of \$1,326,025.33, or 2.6 per cent., in the estimated total cost of the service.

FISCAL YEAR ENDING JUNE 30, 1887.

REVENUE.

1. Ordinary postal revenue	\$49,118,273.94
2. Receipts from money-order business.....	719,335.45
Gross revenue.....	49,837,609.39

EXPENDITURES AND LIABILITIES.

Expenditures:

Amount expended to September 30, 1887, on account
of the year ended June 30, 1887.....\$52,391,677.43

Liabilities:

Amount of indebtedness for various objects certified to Auditor and not yet reported for payment	\$75,000.00
Estimated amount of indebtedness not yet reported to Auditor	251,700.00
Estimated amount due for transportation on Pacific railroads, for which no appro- priation was made.....	295,571.59
Amount of indebtedness incurred for which appropriations will be asked of Congress	119,302.98
	<u>741,574.57</u>

Total actual and estimated expenditures for the service of the
year 53,133,252.00

Deficiency of revenue:

Estimated amount of deficiency of revenue to be supplied out of the
general Treasury on account of the service of the year..... 4,295,612.61

COST OF POSTAL SERVICE.

Amount of actual and estimated expenditures, as shown above.....	\$53,133,252.00
Amount certified to Secretary of the Treasury by the Auditor for trans- portation of the mails on the Pacific railroads, and by law not charged to the appropriations for the postal service	1,187,027.33

Total estimated cost of the postal service for the year..... 54,320,279.33

Deduct amount of gross revenue, as shown above..... 49,837,609.39

Leaves excess of estimated cost of service over amount of revenue.... 5,482,669.94

In addition to the expenditure of \$52,391,677.43 for the service of the year, the sum of \$211,881.50 was paid on account of 1886; \$26,811.99 on account of 1885; and \$375,823.47 for compensation of postmasters readjusted under the act of Congress approved March 3, 1883, making the total disbursements during the year, \$53,006,194.39. The increase in expenditures for the service of the year over those of the previous year was \$1,764,124.06, or 3.4 per cent., the principal items of increase being \$581,303.24, for compensation of postmasters; \$408,149.27, for compensation of clerks in post-offices; \$306,385.35, for compensation of letter-carriers; \$557,880.09, for transportation of the mail by railroads; and \$225,603.83, for compensation of railway postal clerks. There was a decrease of \$332,806.89 in the expenditure for star route transportation, and of \$50,077.02 in that for transportation of the mail by steam-boats.

Comparing the receipts for the year with those of the previous year, it is found that there was a total increase of \$4,889,186.44, or 11.1 per cent., of which \$4,223,887.96 was from the sale of postage stamps, stamped envelopes, newspaper wrappers, letter-sheet envelopes, and postal cards; \$368,783.58, in the revenue from money-order business; \$140,451.94, from box-rents; \$114,210.66, from miscellaneous; \$33,773.07, from letter postage paid in money; \$5,961.21, from fines and penalties; and \$2,118.02, from money taken from dead letters for which no owners could be found.

The gross receipts of the last fiscal year were \$4,295,644.69, or 8 per cent., less than the disbursements on account of the year and the estimated outstanding liabilities, and \$5,482,671.94, or 10 per cent., less than the estimated total cost of the postal service, inclusive of the amount certified to the Secretary of the Treasury for mail transportation on the Pacific railroads.

Several of the above items of increase, both in expenditures and receipts, require, perhaps, some comment.

The increase in the compensation of postmasters, although somewhat above the average ratio of increase of other expenditures, is not an unusual one. It was, however, being governed by law, beyond the power of the Department to control.

The increase in the compensation of clerks in post-offices, which is also above the average ratio of increase of other expenditures, is mainly due to the fact that, under the law, the compensation of clerks employed on money-order business was for the first time charged to and paid out of the regular appropriation for clerk-hire, instead of out of the gross revenue from money-order business. Nearly \$300,000, it is estimated, has thus been added to this item of expenditure. This is but a nominal increase, however, since the addition to the expenditure is exactly offset by the increase of net receipts from the money-order business.

The increase in compensation of letter-carriers is considerably above the average ratio. That for railway postal clerks is also above the average; that for mail transportation by railroads is slightly above the average, but the increase is partly offset by a decrease in the expenditure for star and steam-boat transportation.

Most of the items of increase in receipts are remarkable. In the sale of stamped paper the increase was over 10 per cent.; in money-order receipts, the increase was 105 per cent., explanation of which is above given; in receipts from miscellaneous sources, the increase was 226 per cent.; in receipts from letter postage paid in money, the increase was 56 per cent.; in receipts from fines and penalties, the increase was

44 per cent.; and in receipts from dead letters, the increase was 24 per cent.

I think it is not unreasonable to say that much in the way of reduction of expenditure and something in the way of increase of receipts is due less to chance than to efficiency of administration.

Table No. 3, accompanying this report, gives a comparative statement of receipts and expenditures for the past three years.

The total appropriations for the postal service for the year, covering 37 different objects of expenditure, were \$54,458,589.67. In two items the expenditure exceeded the appropriations in the sum of \$465,294.15—viz, \$229,481.41, for compensation to postmasters, and \$235,812.74 for compensation of clerks in post-offices, for which deficiency appropriations will be asked of Congress. The unexpended balances of appropriations amount to \$2,532,206.39.

In five other items the appropriations were insufficient, the deficiency amounting to \$119,302.98, making practically an excess of expenditures of \$584,597.13 in seven of the items of appropriation. Deducting this from the above stated amount of unexpended balances will leave a net balance of \$1,947,609.26. In other words, the Department kept within the aggregate of the appropriations and had a remainder, after the settlement of all outstanding liabilities, of nearly \$2,000,000.

The appropriations and expenditures, in detail, will be found in Table No. 2.

REVENUE FOR THE FISCAL YEARS ENDING JUNE 30, 1888 AND 1889.

As has been before stated, the increase in ordinary postal receipts for the year ending June 30, 1886, over the year preceding, was 3.3 per cent., an unusually low ratio, while the increase for the year ended June 30, 1887, over 1886 was 10.3 per cent., which is considerably above the annual average. I do not see the slightest reason to apprehend that for either the present or the next fiscal year the increase of receipts will fall as low as that indicated by the first of these ratios, nor do I believe that it would be safe to rely upon so great an increase as that represented by the other.

It, perhaps, would be fair, judging from the last year's experience and from advanced returns of business made to the Department by some of the leading post-offices for the quarter ended September 30, 1887, to assume that the increase for the present year and that for the next year will be at the rates shown in the following statements:

FISCAL YEAR ENDING JUNE 30, 1888.

Amount of ordinary postal revenue, exclusive of receipts from second-class matter, for year ending June 30, 1887.....	\$46,855,925.11	
Add increase of 9 per cent.....	4,217,033.25	
		\$51,072,958.36
Amount of revenue from second-class matter for year ending June 30, 1887.....	1,262,348.83	
Add increase of 14 per cent.....	176,728.83	
		1,439,077.66
Ordinary postal revenue (total estimated amount)		52,512,036.02
Amount of estimated revenue from money-order business.....		730,000.00
Total estimated gross receipts for year ending June 30, 1888...		53,242,036.02

The amount appropriated for the service of this year is \$55,689,650.15, or an excess over the above estimated amount of revenue of \$2,447,614.13, which will be supplied from the general Treasury, assuming that the total amount appropriated will be needed. This amount of deficiency is \$2,281,939.56 less than the amount estimated for in the last annual report, and comprehended in the current appropriation act.

FISCAL YEAR ENDING JUNE 30, 1889.

Estimated amount of ordinary postal revenue, exclusive of receipts from second-class matter, for year ending June 30, 1888	\$51,072,958.36	
Add increase of 8 per cent.....	4,085,836.66	\$55,158,795.02
Amount of estimated revenue from second-class matter, for year ending June 30, 1888	1,439,077.66	
Add increase of 15 per cent.....	215,861.64	1,654,939.30
Total estimated ordinary postal revenue		56,813,734.32
Amount of estimated revenue from money-order business		750,000.00
Total estimated gross receipts for year ending June 30, 1889...		57,563,734.32

The total amount of expenditure to be required for conducting the postal service for the year ending June 30, 1889, as shown in the estimates submitted by you to the Secretary of the Treasury, is \$58,967,233.74. The amount, therefore, necessary to be supplied from the general Treasury, in addition to the revenue, is \$1,403,499.42.

If the expectations indicated in the above statements are realized, the postal service at the end of the year 1889 will be almost in a self-sustaining condition, a fact that is remarkable when we consider the tremendous inroads made upon the postal revenue several years since by the reduction in the newspaper and letter rates of postage, and by the increase in the unit of weight of first-class matter. Remarkable as such an increase of business would be, however, there is really no good reason for doubting that it will not be even greater. Indeed I sometimes permit myself to think that the ratio of increase in receipts and expenditures, as shown by the last year's business, will continue at least to the end of the current year, which would practically place the service, at that time, upon a self-supporting basis.

APPROPRIATIONS, EXPENDITURES, AND ESTIMATES FOR THE SERVICE OF THIS OFFICE.

The expenditure for service of this office during the fiscal year just closed—including deficiencies to be provided by Congress of \$65,237.78 for stamped envelopes, letter-sheet envelopes, and newspaper wrappers; \$6,884.45 for postage-stamps; and \$17,813.49 for registered-package, tag, official, and dead-letter envelopes—was \$1,076,500.09, or \$5,719.10 less than the expenditure for the previous year.

The estimated amount required for the service of this office during the fiscal year ending June 30, 1889, is \$1,253,956, an increase of but \$177,455.91, or 16.4 per cent., over the expenditure for the past fiscal year (including the deficiency appropriation for postage-stamps, etc.), and \$11,056, or 0.8 per cent., over the amount appropriated for the current year. The estimates, together with the explanations thereof, will be found in the statement No. 1, appended hereto.

SUSPENSE ACCOUNTS, COMPROMISES, AND BAD DEBTS.

The report of the Auditor shows that the revenue for the past fiscal year gained by suspense accounts the sum of \$23,566.80, as follows:

Amount credited to suspense accounts	\$24,357.08
Amount charged to bad debts and compromise accounts	990.28
Net gain by suspense	23,566.80

The Department is charged with the total amount of revenue realized each year, whether the same is collected or not. The losses by bad debts and compromise accounts are charged to the year in which the accounts are finally closed. Pending final action balances are carried on the books, by the Auditor, to "suspense accounts." Debit suspense accounts are those showing small balances due the Government, the cost for collection of which would amount to more than the sum due. Credit suspense accounts represent those where small sums are due postmasters, and by reason of death, inability to find the claimant, or from other causes the amounts are not paid over to them. After deducting from the suspense accounts finally closed in the year the amount lost by bad debts and compromise accounts, there remains a balance in favor of the Department as shown above.

AMOUNTS DRAWN FROM THE TREASURY.

The following amounts were drawn from the general Treasury, within the last fiscal year, on account of special and deficiency appropriations, viz:

For deficiency in the postal revenues for 1882 and prior years, under act approved August 4, 1886, Stats., vol. 24, chap. 903, pages 307 and 308, (compensation of postmasters readjusted under act approved March 3, 1883)	\$380,209.46
For deficiency in the postal revenues for 1883 and prior years, under act approved August 4, 1886, Stats., vol. 24, chap. 903, pages 297, 302, and 306, (claims)	7,487.59
For relief of F. M. Bell, postmaster, Tyrone, Pa., under act approved February 23, 1887, Stats., vol. 24, chap. 241, page 917	525.41
For deficiency in the postal revenues for the year ended June 30, 1884, under act approved March 3, 1883, Stats., vol. 22, chap. 92, page 455	110,274.88
For deficiency in the postal revenues for the year ended June 30, 1886, under act approved March 3, 1885, Stats., vol. 23, chap. 342, page 387	2,191,304.67
For deficiency in the postal revenues for the year ended June 30, 1887, under act approved June 30, 1886, Stats., vol. 24, chap. 573, page 92	4,279,336.98
Total drawn during the year	6,969,138.99

TRANSACTIONS AT TREASURY DEPOSITORIES.

The accounts during the year show the following receipts and disbursements at Treasury depositories, viz:

Balance subject to draft June 30, 1886	\$5,321,983.66
Amount of outstanding warrants June 30, 1886	108,415.99
Deposits:	
On account of postal revenues	\$19,751,258.72
On account of grants from the general Treasury	6,969,138.98
	26,720,397.70
	32,150,797.35
Amount of warrants paid during the year ended June 30, 1887	25,551,885.31
Balance at depositories June 30, 1887	6,598,912.04
Outstanding warrants June 30, 1887	82,237.64
Balance subject to draft June 30, 1887	6,516,674.40

Of the \$19,751,258.72 of postal revenue, \$74,475.27 was deposited through national-bank depositories. The balance on hand on June 30, 1887, in national-bank depositories was \$2,379.61.

DEFICIENCIES OF APPROPRIATIONS.

As will be seen by an examination of Table No. 2, hereto appended, three of the appropriations for the use of this office for the past fiscal year were insufficient to meet the requirements of the service. The amount of the deficiency in each case is as follows:

For the manufacture of adhesive postage and special delivery stamps	\$6,881.45
For the manufacture of stamped envelopes, newspaper wrappers, and letter sheets	65,237.78
For registered package, tag, official, and dead-letter envelopes.....	17,813.49

These deficiencies were all unavoidable. The articles covered by the several appropriations are of such a character as to be absolutely essential to the postal service, and their supply is always governed by the demand for them; so that, except to an immaterial extent, the Department can not limit or cut off their issue without creating public embarrassment. The postal revenue, moreover, is largely dependent upon the sales of stamped paper, and therefore it would be incompatible with the true interests of the service to be parsimonious in supplying it, as the wants of the public are made known through the requisitions of postmasters.

In each of the above cases the articles, over and above the amount covered by the appropriation, were willingly furnished by the contractors, with the understanding simply that they were to rely upon Congress for compensation through a deficiency appropriation.

As tending to prevent the necessity of deficiency appropriations in future for the supply of any of the several kinds of stamped paper, I respectfully recommend that Congress be requested to grant authority to the Department to make use, whenever it may become necessary, of any balance that may be left over from one item of appropriation for the purpose of supplying deficiencies that may exist in the others. In the estimates of appropriations for the service of this office for the next fiscal year, which I have had the honor to submit, and which will be found in full with explanations in paper No. 1 attached to this report, I have accordingly drafted a form of enactment intended to accomplish this end, which it would be desirable to have incorporated into the next act of Congress making appropriations for the postal service.

DIVISION OF FINANCE.

The following will show, as far as it is possible to present it by a statistical statement, the work of the finance division of this office during the year:

There were 5,366 contracts for mail service received from the Second Assistant Postmaster-General, and 19,202 orders of the Postmaster-General recognizing mail service not under contract, curtailing or extending service or modifying previous orders. These orders and contracts were entered upon the books of the division for reference when acting upon certificates of the Auditor for the payment of mail contractors and other creditors of the Department.

The number of certificates received from the Auditor and acted upon was 82,503, an increase of 9,504 over the number received for the previous fiscal year.

Accounts were kept with the Treasury, nine sub-treasuries, and thirty-nine designated depositories, involving the sum of \$26,720,397.70, against which 82,503 warrants were issued, aggregating \$25,525,706.96.

In addition to the above, 8,371 certificates were received from the Auditor for the Post-Office Department, upon which 8,371 transfer drafts, covering the sum of \$848,764.44, were drawn against postmasters having a surplus of postal revenue in favor of late postmasters, or postmasters whose revenues were insufficient to meet the demands upon their offices for payment of route agents, railway postal clerks, mail messengers, letter-carriers, etc.

The following table shows the number of post-office warrants and transfer drafts drawn and the number of certificates of deposit received, entered, and passed to the Auditor during the year compared with the number for the previous year:

	1886.	1887.	Increase.
Number of warrants	72,999	82,503	9,504
Number of transfer drafts	5,063	8,371	3,308
Number of certificates of deposit	196,384	211,400	15,016
Total	274,446	302,274	27,828

The number of contractors' accounts on the books of the finance division on June 30 is as follows, viz:

Railroads (in service)	1,827
Mail contractors (star)	5,482
Subcontractors (star)	8,923
Mail contractors (steam-boat)	121
Subcontractors (steam-boat)	14
Mail messengers	5,518
Special mail offices	2,434

Total number of quarterly payments..... 24,319

There were also prepared and forwarded 3,094 letters relating to the business of the division, 82,503 circulars relating to the issue of warrants, 74,320 circulars instructing postmasters when, where, and how to deposit postal balances, and demanding balances due the United States on postal account, etc.

CASES INVOLVING FALSE RETURNS OF CANCELLATION, ETC.

The number of cases made up in the finance division during the year, and referred to the Chief Post-Office Inspector for investigation, involving supposed false returns of cancellation by postmasters, and consequent improper increase of compensation, as well as the withholding of moneys, and other official delinquencies, was 1,021, or 131 more than in the previous year. The number of such cases prepared, after reports of investigation had been received for the final action of the Department, was 252. The amount the Auditor was requested, through formal order of the Postmaster-General, to enter against the accounts of the offending postmasters, was \$127,057.77. These figures show an increase in the number of cases finally acted on of 157, and in the amount charged of \$48,482.17, over like cases acted on and amounts similarly charged during the preceding year.

The cases in which recoveries were thus made involved to a large extent offenses committed in prior years, so that the increase in number does not indicate any growing demoralization of the postal service.

On the contrary, I have some reason to believe, from circumstances attending the investigation of these cases, and from the analysis of reports made by inspectors under the comprehensive inspectional system inaugurated by you, and now in constant operation, that the general efficiency of postmasters is improving. Indeed, this may not unreasonably be regarded as a necessary result of such a system.

While, therefore, the Department has gained by its action in the cases above adverted to a very considerable sum in the way of revenue, amounting to many times the total cost of the investigations involved, the collateral benefits to the service have no doubt been infinitely greater. The moral influence upon weak and dishonest postmasters of the Department's vigorous course in these cases, the growing belief among postal officials that a vigilant supervision over all their acts is constantly practiced and that the detection of any official wrongdoing is almost inevitable, the experience gained by the inspectors delegated to make the necessary investigations, the vindication of innocent officials where the suspicions or charges against them were unfounded, the instruction given to postmasters by the inspectors in the course of their investigations, especially in the more complicated and important branches of postal duty, the removal of incompetent and dishonest officials whenever discovered, and the discontinuance of unnecessary post-offices—all these are of greater importance than the mere increase of the year's revenue, for their effect is to leaven and purify the whole service, not only now but for years to come.

THE SPECIAL-DELIVERY SYSTEM.

Since the 1st of October, 1886, when the special-delivery service was extended to all the post-offices in the country, this office has received reports showing the operations of the system from only the letter-carrier offices, so that a presentation of all the details of the entire special-delivery business throughout the whole country cannot be here made. Enough information, however, is obtainable from the reports of these offices, and from the Auditor's statement of the amount paid as fees for special delivery, to show that the system has been attended with a gratifying measure of success, and that it is ministering, without any exceptions worthy of mention, with very commendable fidelity, to the demands of the public.

The following is a brief statement of the results of the year's business :

For the whole country the Auditor reports that the amount of fees allowed in postmasters' accounts during the year for special delivery is \$92,726.42. Allowing for cases where no fees were paid—as, for example, in cases of delivery by letter-carriers or other paid employes of post-offices—these figures would indicate a total of about 1,219,000 special-delivery letters received during the year at all offices, the special-delivery stamps on which would amount to \$121,900. Deducting from this the amount allowed postmasters shows a total profit to the Government on the year's business of over \$29,000.

At the letter-carrier offices, from which exact returns have been received, the business of the year will appear from the following statement :

1. The total number of pieces of mail matter received for special delivery at all the letter-carrier offices was 1,024,567, of which 725,330, or nearly 71 per cent., came through the mails from other than the offices of delivery, and 299,237, or 29 per cent., were of local origin.

2. The total number of pieces delivered by the regular messengers was 985,071, or over 96 per cent. of the whole, leaving 39,496, or less than 4 per cent., as the number delivered by letter-carriers or other salaried employes, including the few where delivery was impossible.

3. The value of the special-delivery stamps on the pieces received was \$102,456.70; the amount of fees paid to the messengers—taking the figures from the accounts on file in the Auditor's office—was \$77,904.36; so that the net profit to the Government was \$24,352.34. The amount of special-delivery stamps sold at the letter-carrier offices, ascertained from the returns to this office, aggregates \$75,686.50.

4. The average number of messengers employed during each month of the year was 630, and the average monthly compensation was \$10.28.

5. The average time consumed in the delivery of matter after reaching the respective offices of destination was 21 minutes.

Statistics in detail of the business at each of the letter-carrier offices now in existence are given in Table No. 16 of this report.

Contrasting the above results with those given in the last annual report of this office, as far as a fair contrast can be made between the business of the 555 special-delivery offices with which the system began and that of the 205 letter-carrier offices whose returns alone are now being considered, it is found that the system as a whole has not only made reasonable progress, but that it has abundantly demonstrated its usefulness. Upon an examination of the business by quarters, however, these facts are still more plainly shown, in connection with the further fact that the extension of the system so as to take in all post-offices and all classes of mail matter, which went into effect October 1, 1886, just one year after the system was inaugurated, has had a decidedly beneficial effect upon its business. The following are the figures:

During the three quarters prior to the extension of the system the number of letters received for delivery at all the 555 special-delivery offices, including the letter-carrier offices, was—

For the quarter ended March 31, 1886.....	274, 857
For the quarter ended June 30, 1886.....	244, 341
For the quarter ended September 30, 1886.....	222, 436
Total.....	741, 594

During the three quarters succeeding the extension of the system the number of pieces of matter received for delivery at the 205 letter-carrier offices was—

For the quarter ended December 31, 1886.....	277, 886
For the quarter ended March 31, 1887.....	259, 215
For the quarter ended June 30, 1887.....	281, 404
Total.....	818, 505

Add to this 10 per cent., as representing the difference between the business of the letter-carrier offices alone and that of these offices combined with the remainder of the original 555 special-delivery offices.....

81, 850

Makes an aggregate of.....

900, 355

This, it will be seen, is an increase in the number of pieces received of 158,771, or over 21 per cent.

Another indication of the beneficial effect of the extension is shown in the following statement:

During the three quarters prior to the extension, when special-delivery matter was deliverable at only 555 offices, and was confined to letters, the number of pieces of such matter mailed from the letter-carrier offices was—

For the quarter ended March 31, 1886.....	101, 400
For the quarter ended June 30, 1886.....	90, 661
For the quarter ended September 30, 1886.....	84, 146

Total special-delivery pieces mailed.....

276, 207

During the three quarters since the extension, when special-delivery matter is deliverable everywhere, and when it takes in everything admissible to the mails, the number of special-delivery pieces mailed from the letter-carrier offices was—

For the quarter ended December 31, 1886	111,958
For the quarter ended March 31, 1887	111,758
For the quarter ended June 30, 1887	118,154
Total.....	341,870

This increase in the number of pieces mailed, being at the rate of nearly 24 per cent., proves conclusively that the extension of the special-delivery system was a wise and provident act.

In addition, however, to the stimulus given to the system by this extension, I have no doubt that a considerable part of the increase of business as above shown in the last quarter of the year is attributable to a circular issued by the Department on the 1st of March, 1887, and which was given wide publicity by its display at post-offices and by its insertion in the Postal Guide, in which circular the general advantages of the system were pointed out, and some of the special uses to which it may be put were detailed.

* * * * *

Upon a dispassionate consideration of all that relates to the special delivery system, I see no reason for doubting that the increase of its business above adverted to will continue, and I predict for it a permanent career of usefulness among the special branches of the postal service. As an important step towards this, I urgently recommend that investigation be made at an early day as to the practicability and expediency of establishing in the great cities of the country what is known in Europe as the pneumatic-tube system, by which, through under-ground pipes, messages and parcels may be transmitted between established stations with almost marvelous rapidity.

One of the disadvantages against which the special-delivery system is now contending is its dependence, in large cities with postal stations, upon the comparatively slow and infrequent service of the mail-messenger wagons. By a system of pneumatic tubes, or, what perhaps would be quite as good, a system of small subterranean railways, messages could, of course, be sent at any hour between the main office and its stations, and without any of the delay which now attends the mail-messenger service. Nor would such a system work alone to the advantage of special delivery. It would probably bring into the post-office all the vast amount of local correspondence in large cities which is now intrusted to private expresses and district telegraph companies, adding, no doubt, considerably to the reputation as well as to the revenues of the postal service. Besides, if such a system is practicable, which seems to be unquestionable from its existence abroad, it might be made to take in the bulk of all the mails in the cities where it is established, so that, to say nothing of speed in local transmission, the immense cost of the present mail-messenger service might be considerably curtailed.

DIVISION OF POSTAGE-STAMPS, STAMPED ENVELOPES, AND POSTAL CARDS.

During the year, through the work of this division, there were issued, of the various kinds of stamped paper, 2,503,170,139 pieces, valued at \$46,619,680.65, as against a total of 2,342,364,871 pieces, valued at \$43,289,724.02, for the preceding year—an increase of 6.87 per cent. in number and 7.69 per cent. in value.

The separate issues of stamped paper, by kinds, denominations, and values, will be found stated in tables 5, 6, and 7, attached to this report.

Adhesive stamps.—Compared with the issues of the preceding fiscal year, there was an increase of 126,201,420, or 7.79 per cent. in number, and \$2,601,792, or 8.35 per cent. in value, of ordinary adhesive postage-stamps issued to postmasters.

There was a decrease of 2,453,620, or 66.32 per cent., in number, and a corresponding decrease in value, in the issues of special-delivery stamps. This marked decrease must not be understood to mean that fewer special-delivery stamps were used by the public during the year than during the preceding year; for, as is indicated elsewhere in this report, the business of the special-delivery system, on account of its extension to all post-offices, has probably so increased as to demand the use of a very much greater number of stamps than before. The decrease simply means that the issues during the past year have been confined to the actual wants of post-offices, as shown by the requisitions of postmasters; while the issues of the preceding year—most of which were made in anticipation of the establishment of the system, when it was impossible to accurately determine the wants of post-offices—were made upon a too liberal basis. Very many post-offices, being thus fully stocked with special-delivery stamps, have not needed additional supplies, producing, of course, a decrease in the number issued.

Special effort was made during the year to instruct postmasters more fully than before as to the use of postage-due stamps, and to rigidly collect postage on second-class matter. There has consequently been an increase in the issues of postage-due and newspaper stamps. The increase of the former has been 2,776,884, or 50.77 per cent., in number, and \$75,147, or 46.97 per cent. in value; and of the latter 276,134, or 10.02 per cent., in number, and \$267,023.80, or 24.33 per cent., in value.

Stamped envelopes.—The total number of stamped envelopes and wrappers issued was 381,611,300, valued at \$7,432,845.85. The value of impressed stamps upon them was \$6,759,680, leaving \$673,165.85 to represent the cost of manufacture and other expenses of issue. The net cost of manufacture was \$638,814.47, so that the sum of \$34,351.38 may be said to comprehend, as the law requires, "all salaries, clerk hire, and other expenses" connected with the manufacture and issue of the envelopes.

There was an increase of 8,907,600, or 5.73 per cent., in number, and of \$150,150.43, or 4.93 per cent., in value, of plain stamped envelopes issued over the issues of the previous year; an increase of 18,361,750, or 12.02 per cent., in number, and of \$346,843.05, or 10.35 per cent., in value, of special-request stamped envelopes issued; and of 333,850, or .73 per cent., in number, and of \$3,797.35, or .71 per cent., in value, of the newspaper wrappers issued.

Letter-sheet envelopes.—The issue of letter-sheet envelopes was begun on the 18th day of August, 1886, under a contract made with the United States Sealed Postal Card Company, of New York, account of which was given in the last annual report of this office.

The number of letter-sheet envelopes sold during the year, as reported by postmasters to whom they have been supplied, is 3,481,866, realizing \$80,082.91. The contract cost of these envelopes is \$2.85 per 1,000; so that, outside of the amount of postage received by the Government upon them, there has been a clear gain to the postal revenue in their sale of \$522.28.

Up to nearly the close of the fiscal year the issue of letter-sheet envelopes had been limited to post-offices of the first and second classes;

but as this hardly afforded a fair test of the utility of the envelopes, and practically deprived the public at many large post-offices of the opportunity of purchasing them, orders were given to extend the issue to all Presidential offices.

* * * * *

Postal cards.—The increase in the number of postal cards issued is in numbers 1,291,250, or .36 per cent., and in value \$13,035, or .37 per cent. The small increase in the issue of postal cards indicates a growing public preference for communication in the mails by sealed letters—an effect of the cheap rate of postage—and of the use of stamped envelopes for inclosing circulars in lieu of open circulars on postal cards.

It is proper to state that the number of postal cards issued, as shown in Tables Nos. 5, 6, 7, and 10, and upon which the above comparison is based, does not include 25,000,000 shipped on the 7th of June, 1887, to the postal-card subagency at Chicago, account of which is hereinafter given.

Past issues of postage-stamps, etc.—Appended to this report are three tables, Nos. 8, 9, and 10, showing the annual issues—either in values or in the number of articles—of postage-stamps, stamped envelopes, and postal cards, from the date of their introduction into use to the close of the last fiscal year. These tables are of interest as showing, in a condensed shape, the amount of increase in these issues from year to year.

Registered-package, tag, and official envelopes.—In addition to the supplies above enumerated, there were issued for the use of the postal service 11,265,450 registered-package envelopes, 1,077,500 registered-tag envelopes, 2,278,000 envelopes for returning dead letters, and 30,773,950 official envelopes, for postmasters and other postal officials, and 4,722 newspaper and periodical stub-books.

The total number of registered-package and tag envelopes was 12,342,950; of dead-letter and official envelopes, 33,051,950; and of all kinds, 45,394,900. This is an increase of 380,900, or 4 per cent., in registered-package and tag envelopes; of 2,926,350, or 10 per cent., in dead-letter and official envelopes; and of 3,316,250, or 8 per cent., of all kinds, over the issues of the preceding year.

* * * * *

REDEMPTION OF 3 AND 6 CENT STAMPS AND ENVELOPES.

Upon the change in the rate of postage on first-class matter from 3 to 2 cents a half ounce on the 1st of October, 1883, large quantities of 3 and 6 cent stamps and stamped envelopes were left in the hands of postmasters and of the public. As those in the hands of the public could not be used, except at a loss, under the new rate, it was thought to be just that the Department should redeem them by giving the 2-cent denomination of stamps and envelopes for them. Orders to this effect were accordingly given to postmasters, December 12, 1883; but at the same time, they were forbidden to send to the Department the stamps and envelopes thus redeemed. The result was a large and very general accumulation of unsalable stock in post-offices, over one-third probably of all the post-offices in the country having more or less of it. On January 1, 1886, it was determined to relieve postmasters of this accumulation of valueless material; but as the volume of it was so great that it could not be conveniently handled if called in at once, circulars were sent monthly to a limited number of postmasters, direct-

ing them to return to the Department whatever amount they might have on hand. As fast as the stock was received under these notices it was counted and destroyed, the proper credits for it being given postmasters in their accounts.

By February, 1887, this unsalable stock had become so greatly reduced that all postmasters were instructed to return at once such of it as they might still have on hand. For five months these instructions were published in the Monthly Postal Guide, so that at this time the stamps and envelopes in question are virtually all redeemed. This work was done without addition to the force of the stamp division, and without help from any other branch of the Department.

The following statement will give a fair idea of the increase of this work over what may be regarded as the ordinary business of redeeming spoiled and unsalable stamps and stamped envelopes returned by postmasters to the Department:

Number of redemption cases received in the year ended June 30, 1884...	7,036
Number in the year ended June 30, 1885	7,411
Number in the year ended June 30, 1886	13,952
Number in the year ended June 30, 1887	20,608
Increase in number of cases in 1885 over 1884	373
Increase in number of cases in 1886 over 1885	6,541
Increase in number of cases in 1887 over 1886	6,650
Number of cases received from July 1, 1884, to December 31, 1885	12,375
Number of cases received from January 1, 1886, to June 30, 1887	29,590
Increase per cent. in the number of cases for eighteen months ended June 30, 1887, over corresponding period ended December 31, 1885	139.11
Amount of credits allowed for eighteen months ended December 31, 1885.	\$295,763.60
Amount of credits allowed for eighteen months ended June 30, 1887.....	435,740.01

POSTAGE ON SECOND-CLASS MATTER.

The weight of second-class matter sent in the mails during the fiscal year ended June 30, 1887, not including matter circulated free within the county of publication, was 126,234,883 pounds, or over 63,117 tons, and the amount of postage collected was \$1,262,348.83. This is an increase of 14.79 per cent. as compared with the year of 1886.

The number of post-offices at which second-class matter is mailed was 7,000, an increase over the previous year of 450, or 6.42 per cent.

Collections amounting to \$3,122.37 were made from publishers and news-agents for matter improperly mailed at second-class rates of postage. This is an increase of \$1,036.23, or 50 per cent., over the amount realized from the same source during the preceding year.

An interesting table showing the collections during the last fiscal year of newspaper and periodical postage at first-class post-offices, in comparison with amounts collected during the preceding year, is attached to this report, marked No. 11.

USE OF STAMPED ENVELOPES.

The increase in the value of plain stamped envelopes issued, as hereinbefore shown—being not quite 5 per cent. over the issues of the preceding year—is slightly more than the annual average; but the increase in the value of the special-request envelopes issued—being over 10 per cent.—is very much above it. While it is to be regretted that the issues in the one case have not kept pace with the general increase of the postal revenue during the year, it is very gratifying to know that in the other the issues are much greater than could have been expected. There are many advantages resulting from the use of stamped envelopes, both to the consumer and to the Department, which should always give them preference, wherever they can be conveniently used, over the adhesive stamps. In the hope that it will encourage the use

of stamped envelopes, particularly the special-request envelopes, I take advantage of this opportunity to present a statement of some of the advantages referred to:

1. In case of the non-delivery of letters inclosed in special-request envelopes, they are returned direct to the senders. The long delay and uncertainty incident to the return of ordinary undelivered letters—to say nothing of the necessary invasion of their privacy in the Dead-Letter Office—are thus avoided.

2. Where stamped envelopes are used to inclose letters there is never any detention of them for lack of postage, the reverse of which is the case where, when other envelopes are used, an insufficient amount of postage in adhesive stamps is applied. Detention of letters for this reason is not infrequent.

3. Stamped envelopes are very cheap. One of the kinds most commonly used—the No. 4½ first quality—is sold at the rate of only \$1.80 a thousand, in addition to the postage, while the third quality of the same size is sold at \$1 a thousand, or ten for a cent.

4. The quality of all the stamped envelopes is excellent. The first quality is of finely finished paper, the second quality is the same except that the paper is a trifle lighter, and the third quality—a manila paper, of smooth finish and good writing surface—is of great strength and durability. They may therefore be sent long distances in the mails without injury.

5. In case stamped envelopes are spoiled by their owners in printing or misdirecting them, they are redeemable at the post-office, at their postage value, in postage-stamps or other envelopes. In similar cases where adhesive stamps are used, the stamps, to be of value, must be detached from the envelopes and regummed.

The advantages to the Government from the use of stamped envelopes are quite as important, comprehending the facility of handling and distributing in the mails the letters inclosed in them, owing to their similarity in size and shape, the fixation of the stamp in the most convenient place for canceling, the impossibility of their being cleansed of the canceling marks and used a second time, and, where special-request envelopes are used to inclose letters, the saving of labor in post-offices and the Dead-Letter Office in cases where the letters are found to be undeliverable.

For the last-named reason the Department has for years past endeavored to give as much prominence as possible to special-request envelopes—an effort that has been rewarded to some extent by a greater ratio of increase in the number annually used than in that of ordinary stamped envelopes. The following table is of interest in connection with this subject:

Year ended June 30—	Plain envelopes and wrappers issued.	Special-request envelopes issued.	Total.	Per cent. of request-envelopes.
1877.....	106,276,950	61,374,500	170,651,450	37.72
1878.....	115,715,100	67,845,250	183,560,350	36.96
1879.....	110,503,700	67,058,250	177,561,950	37.77
1880.....	130,301,500	76,835,500	207,137,000	37.09
1881.....	142,043,050	85,024,000	227,067,050	37.44
1882.....	155,861,200	100,704,250	256,565,450	39.25
1883.....	158,688,200	100,578,250	259,266,450	38.79
1884.....	182,716,550	129,515,500	312,232,050	40.19
1885.....	189,954,650	136,790,750	326,745,400	42.38
1886.....	201,265,850	152,742,250	354,008,100	43.14
1887.....	210,507,300	171,104,000	381,611,300	44.84

REDUCTION IN COST OF STAMPED ENVELOPES.

The present contract with the Morgan Envelope Company and Plimpton Manufacturing Company for stamped envelopes and newspaper wrappers, for the four years commencing October 1, 1886, has resulted in a large saving in their cost.

The amount saved during the nine months ended June 30, 1887, on the styles and qualities of envelopes corresponding with those issued under the previous contract, has been as follows:

Quality.	Number of envelopes.	Cost under contract of—		Saving.	
		1882.	1886.	Amount.	Per cent.
First	241,572,800	\$334,411.92	\$434,114.97	\$109,296.95	18.1
Second	9,930,100	20,242.51	14,653.60	5,588.91	27.1
Third	3,418,250	5,881.81	3,526.44	2,355.37	34.3
Circulars	25,883,750	35,368.04	28,487.50	6,880.54	19.1
Newspaper wrappers	39,671,850	39,275.23	34,911.23	4,364.00	11.1
Total	320,476,750	635,182.51	515,693.74	119,488.77	18.1

The per cent. of saving on the aggregate number of envelopes is identical with that on the first quality, while the average reduction in cost is 37.25 cents per thousand. At the same ratio the saving on the issues of the entire fiscal year would be \$142,150.22.

The estimated issues during the first contract year will be 418,913,900, and allowing an annual increase in issues of 15 per cent., as estimated by my predecessor in his last annual report, the estimated issues and savings in cost during the entire term of the present contract will be as follows:

Year ending September 30—	Estimated amount of envelopes issued.	Estimated cost under contract of—		Estimated saving.
		1882.	1886.	
1887	418,913,900	\$829,449.52	\$673,513.01	\$155,936.51
1888	481,750,950	953,806.95	774,539.96	179,266.99
1889	554,013,650	1,096,946.99	890,720.95	206,226.04
1890	637,115,650	1,261,489.04	1,024,329.09	237,159.95
Total	2,091,794,150	4,141,752.50	3,363,103.01	778,649.49

CHANGES IN STAMPS AND STAMPED ENVELOPES.

Prior to my taking charge of this office preparations had been begun for making new dies for the one-cent denomination of adhesive postage stamps, and the one, two, and four cent denominations of embossed stamps on stamped envelopes, the old dies having become too much worn for further service. It had also been decided to substitute the bust of President Grant for that of President Garfield upon the five-cent denomination of embossed stamps, leaving unchanged, however, the portrait of Garfield upon the same denomination of adhesive stamps. After the new dies were completed, it was thought that some changes in the colors of the stamps would be desirable, which upon the 12th of August were finally decided upon. The following is a statement of all the changes made:

The one-cent adhesive stamp bears in its center a profile bust of Benjamin Franklin, after the original bust by Caracci, the face looking to

the left, in an oval disk with shaded background, the lower portion of the oval being bordered with pearls and the upper portion with a curved panel containing in small white letters the words "United States Postage." The whole is engraved in line upon a shield-shaped tablet with a truncated pyramidal base, bearing on it the words "one" and "cent" on either side of the figure "1". The color of the stamp is unchanged, its general appearance being somewhat similar to the stamp which it replaced.

The two-cent adhesive stamp is unchanged except in color, green being substituted for the former color, metallic red.

The three-cent adhesive stamp (of which supplies are still made to some of the larger post-offices), is also unchanged except in color, vermilion being substituted for green, the old color.

The one-cent embossed stamp on stamped envelopes is unchanged in color, but is from a new die of the head of Franklin after the bust by Caracci.

The two-cent embossed stamp is changed in color—green being substituted for metallic red—and is from a new die of the head of Washington after the statue by Houdon.

The four-cent embossed stamp is changed in color—carmine being substituted for green, the former color.

The five-cent embossed stamp bears upon it the bust of Grant instead of that of Garfield, and is changed in color—dark blue being substituted for the former color, chocolate brown.

The thirty-cent embossed stamp is changed in color—the old color, black, being replaced by brown.

The ninety-cent embossed stamp is changed in color, purple being substituted for carmine.

In addition to these changes, the border around the one, two, four and five cent embossed stamps is somewhat different from the old ones, the following being a description of the new design: "On the upper portion of an elliptical band, between two serrated lines, are the words 'United States Postage,' in white letters; on the lower portion of the band are words, in the same style of lettering, indicating the denomination, which is also shown by an Arabic numeral in a shield at the bottom. The upper and lower portions of the band are separated by an eight-pointed rosette on each side of the stamp."

Issues of the one-cent adhesive stamp of the new design were begun about the 15th of June, 1887; issues of the other stamps and stamped envelopes were begun on the 12th of September, 1887.

CHANGE IN THE DESIGN OF POSTAL CARD.

On the 1st of December, 1886, the issue of postal cards of a new design was begun, of the following description: Near the top of the card, and equidistant from its two edges, is a profile portrait of Thomas Jefferson, looking to the right, on a shaded background, inclosed within several concentric circles, and resting upon an ornate pedestal engraved in outline. Below this pedestal, in small letters, is the legend, "Nothing but the address to be on this side." Immediately beneath the portrait and within two of the circles appears the denomination, "one cent," and on the other side, in unshaded panels with arabesque terminations, is the title, "postal card," in plain Roman letters. Above the whole, inscribed upon a curved ribbon, are the words "United States." The design is printed in black.

STAMP, ENVELOPE, AND POSTAL-CARD AGENCIES.

The several agencies for the distribution of stamps, stamped envelopes, and postal cards, situated, respectively, at New York, N. Y., Hartford, Conn., and Castleton, N. Y., where the stamps, envelopes, and cards are manufactured under contract, have been carried on during the year with the fidelity and correctness that have always characterized them. Out of a vast number of separate shipments of the several articles named, covering very many denominations, kinds, qualities, sizes, and special forms of printing, and aggregating in value the enormous sum of over \$46,000,000, the number of errors made and the losses in transmission have been quite immaterial.

The force employed at the several agencies during the year was as follows:

Postage-stamp agency:

One agent at a salary of.....	\$3,500
One clerk at a salary of	1,500
Four clerks, each at a salary of \$720	2,880
One laborer at a salary of	000
Making a total for salaries of.....	7,500

Stamped-envelope agency:*

One agent at a salary of.....	2,500
One clerk at a salary of.....	1,800
Seven clerks, each at a salary of \$1,200	8,400
One clerk at a salary of	1,000
Two laborers, at salaries amounting to	1,500

Making a total for salaries of..... 15,200

Postal-card agency:

One agent at a salary of	2,500
One clerk at a salary of	1,600
One clerk at a salary of	1,400
Two clerks, each at a salary of \$1,200.....	2,400
One clerk at a salary of	1,000
One clerk at a salary of	900

Making a total for salaries of..... 9,800

Since the establishment of a subagency at Chicago, Ill., as herein-after mentioned, the force of the postal-card agency has been reduced to six men, and the salaries to \$8,600. As will be seen in the table of estimates appended to this report, a still further reduction is contemplated, which will bring the total expenses of the agency down to \$7,800.

In connection with the duties of the several agents in charge of the distribution of stamped paper, I have been somewhat surprised to find that never since the first appointment of an agent for this purpose has any official bond been required of them. The reason of this doubtless lies in the fact that these offices were never specifically created by act of Congress, their existence and support being due to annual appropriations made in bulk to pay the expenses of the agencies. As, however, public securities of a vast amount are in the practical control of these officers every year, it seems to me that in case of any default by them the Government should be protected by an adequate bond.

I do not wish it to be understood that this suggestion grows out of anything that has transpired since my appointment to this office, or that

*The statement here given covers the present standing force of the agency, but it is not quite exact as to the entire force employed during the year. The total expenditure for employes, including the agent, and temporary clerks whose occasional employment is absolutely necessary, was \$15,937.97.

it originates in any distrust of the present agents. They are all, I learn, gentlemen of unexceptionable character, in whose direct personal custody I have no doubt any amount of public property might be at all times safely intrusted. I call attention to the matter because it seems to be consistent with the general policy of the Government in similar cases to require bonds, and because at some time in the future the Department may have the misfortune to have in these offices persons of not the same high character as those who now fill them.

SUBAGENCY FOR DISTRIBUTING POSTAL CARDS AND STAMPED ENVELOPES.

Just before the close of the fiscal year 1887, in compliance with your orders given under authority of the act of Congress making appropriations for the service of this Department for the fiscal year ending June 30, 1888, an agency for the distribution of postal cards and stamped envelopes was established at the post-office at Chicago, Ill., under the superintendence of the postmaster, and this agency, which is additional to the agencies already established at Castleton, N. Y., and Hartford, Conn., where the cards and envelopes are manufactured, has been since carried on in a very satisfactory manner. Up to the present time only postal-cards have been distributed from this agency; but as soon as the necessary arrangements can be made—principally by an accumulation of sufficient stock with which to properly begin—stamped envelopes will be distributed also.

The storage room of the agency is in the Government building at Chicago, having been fitted up for the purpose, at an immaterial expense, by the Treasury Department, and is in convenient contiguity to the registration division of the post-office, through which the goods are mailed, after being registered, to the post-offices daily designated by the Department. The work of distribution can thus be carried on without inconvenience, in the same manner precisely as private mails are distributed, and without any change of postal machinery. So far, the operations of the agency have been carried on with an increase of the force of the post-office of only one clerk, at a salary of \$1,200 a year, which amount has been offset by a reduction in the force of the agency at Castleton, where the work has been correspondingly reduced.

The method of operating this agency is as follows: From time to time the goods which it is to distribute are shipped to it as freight, under special arrangements with the New York and Hudson River Railroad Company, from the place of manufacture, care being taken to keep the agency always sufficiently supplied, to send the goods as nearly as practicable by car-loads, so as to secure the lowest rates for transmission, and in packages and cases of fixed proportions and quantities, so as to avoid the necessity of recount and repacking when dispatched from the agency to postmasters. From the stock so received, which is charged against the postmaster at Chicago as agent, the daily orders of the Department, comprehending suitable supplies to postmasters within a scope of territory that can be most expeditiously reached from Chicago, are filled. This territory takes in Alaska, California, Dakota, Idaho, Illinois, Indiana, Iowa, Michigan, Minnesota, Montana, Nebraska, Nevada, Ohio, Oregon, Utah, Washington, Wisconsin, and Wyoming. Weekly reports of the distribution are made to the Department, to which also receipts for the goods, as fast as they are received by the postmasters for whose use they are ordered, are sent. Inventories are made from time to time at the agency, and full accounts kept both there

and at the Department, so that mistakes in issues, if made, can be quickly corrected, and any misappropriation of the goods rendered impossible without detection. Up to the date of this report 50,000,000 cards have been sent to the agency, but it is estimated that over 100,000,000 more will be needed during the present year, the area of distribution for the agency probably taking in about 29 per cent. of all the cards issued throughout the country.

From the experience already had in the case of this agency—no mistakes, no unnecessary friction, no increased expense having been occasioned—there can be little doubt that an extension of the system, by the establishment of additional agencies at Saint Louis, Mo., and at Atlanta, Ga., which would conveniently supply all post-offices in the South and Southwest, would work to the advantage of the Department. At each of these cities the Government is the owner of the post-office building, in which sufficient room is available for the purposes of an agency, so that no expense for rent or supervision would be incurred, and but little expense for alterations; and no derangement would be brought about in the present methods of business in the post-office. It is not unlikely that the establishing of these additional agencies, which I understand to be your intention, and which is delayed only because of certain changes in the buildings to be made through the Treasury Department, will bring about some increase of work in this office.

The following statement of some of the advantages likely to result from these subagencies will sufficiently demonstrate the expediency of their establishment:

1. The agencies being situated somewhat centrally within their several areas of distribution, the Department through them can supply the wants of postmasters much more promptly than is possible under present arrangements. The time which is now consumed in the transmission of orders from the Department to Castleton and Hartford, and in the transmission of supplies under such orders as far at least on their journey as the several cities at which agencies are suggested, would manifestly be saved under the proposed arrangement; besides which, the goods sent to the several agencies being all put up in packages and cases conforming to a prearranged plan of distribution, can be easily segregated from the stock of the agency and sent in unbroken quantities to designated points without any delay whatever after the receipt of the Department's orders.

2. The issues of postal cards and stamped envelopes have grown to be so enormous that for the past two or three years the postal cars from Hartford, Conn., and Albany, N. Y., the main points of present distribution, have been frequently almost filled with the heavy boxes and cases in which the goods are packed, imposing not only an almost intolerable burden upon the postal clerks in handling them, but greatly interfering with and delaying the other and legitimate work of the mails. Not only this, but the safety of the mails and the lives of the postal employes have been often imperiled by the tremendous weights with which the postal cars, not constructed for the carrying of heavy freights, have been thus loaded. To some extent relief has been given by the establishment of the agency at Chicago; but a complete remedy will be afforded by the proposed agencies at Saint Louis and Atlanta.

3. The establishment of the agency at Chicago has, by diverting a portion of these heavy loads from the mails and sending them to that city as freight, probably saved the Department the expense of an additional 60-foot postal car, which, in the opinion of the late General Superintendent of the Railway Mail Service, would by this time, perhaps, have

been a necessity. The cost of such a car would, as I am informed, be over \$40,000 a year; the cost of freighting the cards for the present year will probably be about \$6,000. So that the Department will save in this item alone, for the period of one year, say \$34,000.

4. All the envelopes and cards that are sent to the several agencies will, of course, reduce the weight of the mails as now carried. It has been roughly estimated that about 1,000 tons of matter per annum will thus be diverted from the mails.

The cost of this if sent by mail would probably amount to \$70,000
The cost as freight will probably not exceed 12,000

Showing an annual saving of 58,000

5. When the next contracts for postal cards and stamped envelopes are entered into, provision can, and in my opinion should, be made with the contractors for having a certain proportion of the goods delivered at the several agencies instead of having them all delivered at the places of manufacture, as is now the case. This would relieve the Department of the trouble and responsibility of arranging for the shipment of the goods as freight, and would probably save it some expense; for although the card and envelope contractors, in making up their bids, would have to add to the expense of manufacture the cost of shipment to the several agencies, the Department would have the advantage of competition, which would undoubtedly bring the expense down to less than it would have to pay if separate arrangements for freighting were made with the railroad companies.

NEW CONTRACT FOR REGISTERED PACKAGE AND OTHER OFFICIAL ENVELOPES.

During the year a new contract was made for registered package, tag, dead-letter, and official envelopes, going into effect July 1, 1887. Copy of this contract is hereto appended, marked No. 17. Its specifications and conditions are the same in all respects as the contract for the preceding year, but the prices under it are somewhat lower. They are as follows:

	Per thousand.		Per thousand.
No. 1.....	\$0.78	No. 8.....	\$2.12
No. 2.....	.90	No. 9.....	3.25
No. 3.....	1.23	No. 10.....	3.72
No. 4.....	1.70	No. 11.....	4.43
No. 5.....	1.04	No. 12.....	4.75
No. 6.....	2.28	No. 13.....	7.70
No. 7.....	4.13		

The contractor is the Holyoke Envelope Company, of Holyoke, Mass.

DIVISION OF REGISTRATION.

The registry fees collected during the fiscal year ended June 30, 1887, amounted to \$1,034,676.80, which is \$64,724.10, or over 6½ per cent. more than the amount collected during the preceding fiscal year. This is a very gratifying increase; but when it is considered that a great reduction in the fee for small money-orders was in force during nearly the whole year, which naturally had the effect, at all money-order offices, of reducing the amount of registration business, the increase is quite remarkable.

The classification and number of pieces of matter registered during the year are as follows: Domestic letters, 8,691,663; domestic parcels, 1,045,476; letters to foreign addresses, 571,483; parcels to foreign addresses, 38,146; letters and parcels transmitted for the Government and by law exempt from the payment of the registry fee, 2,177,653; making a total of all kinds of 12,524,421.

As compared with the work of the previous year, there was an increase of 557,129, or 6.84 per cent., in the number of domestic letters; of 26,103, or 2.56 per cent., in domestic parcels; of 68,760, or 13.67 per cent., in letters to foreign addresses; a decrease of 4,751, or 11.07 per cent., in parcels to foreign addresses; and an increase of 228,953, or 11.74 per cent., in letters and parcels registered free.

Statistics of the registry business will be found in greater detail in Tables Nos. 12 to 15, hereto appended.

LOSSES.

The total number of reported losses of registered letters and parcels during the year was 5,286, of which investigations were completed in 4,604 cases. Of this number 2,686 cases were found to be groundless, and 579 cases resulted in recovery of the articles or values lost, and a restoration of them to the owners; leaving the total number of pieces lost 1,339, or 1 in every 9,354 pieces registered.

This rather high ratio is owing to the fact that an unusually large number of accidents occurred during the year, more than half the number of losses being attributable to this cause, as will be seen from the following statement:

Losses by the accidental burning of post-offices and postal cars, wreck of cars and steam-boats, and other unavoidable accidents	681
Losses for which the responsibility could not be fixed	121
Losses chargeable to depredation or theft	537
Total actual losses	1,339

Full detail of these losses will be found in the report of the Chief Post-Office Inspector.

IMPROVED SYSTEM IN REGISTRY DIVISIONS OF LARGE POST-OFFICES.

The work of unifying and improving the methods of transacting business in the registry divisions of large post-offices has been continued during the year.

Where several registry clerks have equal access to the great values massed at an important registration center, the principle of individual responsibility, the aim of the registry system, can not prevail except by a system of checks and balances, the use of special records and forms, and the adoption of rules supplementary to the general code governing the registry system. As admirably embodying these several requirements, the methods that are followed in the New York and Chicago post offices, and that have stood the test of experience of more than ten years past, have been made the basis of new rules, so formulated as to make them applicable to the registry division of any large post-office. The improved system thus devised has been introduced into about half of the twenty-five large offices, where it will probably be economical and proper to introduce it, and has already shown good results in the greater facility given to inspectors in the investigation of losses, in narrowing the field of investigation, in protecting the innocent

from unjust suspicion in cases of loss by either carelessness or dishonesty, and in a general improvement in precision and discipline among registry employés.

When the blanks, records, and system of the registry divisions of these twenty-five large post-offices are reduced to a practical uniformity, a great saving of labor and expense will have been effected, and through a better understanding of the details of registration work at each office a more direct control over such work can be assumed by the Department.

Progress in the work undertaken is necessarily slow, as mechanical and architectural changes at registry divisions have frequently to be made, numbering stamps, records, and forms ordered, and practical instruction given in placing the improved system in operation.

EXCHANGES OF THROUGH REGISTERED MATTER.

The number of exchanges for domestic registered matter in through pouches, under what is known as the through registered-pouch, the inner-sack, and the brass-lock systems—the value of which has been explained in former reports of this office—has somewhat increased. The following shows the number of these exchanges in operation at the close of the fiscal year:

Through registered-pouch exchanges	405
Inner-sack exchanges	305
Brass-lock exchanges	204
Total	914

INTERNATIONAL REGISTERED-POUCH EXCHANGES.

Through conference and correspondence with Canadian postal officers during the year, the following-named exchanges for registered matter in through pouches under the international rotary lock have been established, namely: Saint Paul, Minn., and Winnipeg, Manitoba; Saint Vincent, Minn., and Winnipeg, Manitoba; San Francisco, Cal., and Victoria, British Columbia; Port Townsend, Wash., and Victoria, British Columbia; New York, N. Y., and St. John, New Brunswick; Boston, Mass., and St. John, New Brunswick; Bangor, Me., and St. John, New Brunswick. It is believed that the additional security afforded by these exchanges, in connection with others heretofore established, will to a great extent prevent registration losses on the border, which at times have been of not infrequent occurrence.

The international registered-pouch system permits of the passage across the border of registered pouches by hand to hand delivery and receipts between connecting postal clerks, and as a result of this the exchanges established during the year have effected a saving of twenty-four hours in time for registered correspondence between nearly all sections of the United States, and the northeastern and northwestern provinces of Canada.

During the year the same system of exchanges has been established between New York, N. Y., and Havana, Cuba; Jacksonville, Fla., and Havana; Tampa, Fla., and Havana. Greater security has thus been afforded to registered correspondence between Cuba and the United States, and more frequent and more expeditious dispatches have been effected, to the advantage of correspondents in both countries.

EXCHANGE OF REGISTERED MAILS WITH MEXICO.

During the year the assent of the Mexican Government has been given to the establishment of an exchange of registered mails between New York and the City of Mexico, in closed pouches, under the international rotary locks. The exchange has not yet gone into effect because the Mexican Government has not provided itself with the necessary facilities in the way of special pouches and locks for carrying on the exchange. When these facilities are procured, the exchange will be put into operation without delay. The exchange at first will be confined to mails between the two cities named; but eventually there is reason to believe other cities will be taken in, so that the entire registered mails of both countries—concentrated at convenient points of distribution and dispatch—may be given the benefits of the closed-pouch exchange. The result of such an arrangement will undoubtedly be mutually advantageous.

RETURN OF UNDELIVERED CORRESPONDENCE BETWEEN THE UNITED STATES AND CANADA.

After the close of the fiscal year—namely, on July 25, 1887—an important change was made in the method of returning undelivered correspondence between this country and Canada. As this change largely affects registered matter—which comes under the jurisdiction of this office—it may as well be described here.

Prior to the date named all ordinary correspondence between the two countries, if undelivered, was returned through the Dead-Letter Office, except such as bore printed requests to return to the senders; all registered letters were returnable through the Dead-Letter Office whether they bore printed requests or not. In future every letter received in the mails by either of the two countries from the other—provided it has written or printed upon it the name and address of the sender—is to be returned, in case of its non-delivery, direct to the post-office of origin. If the letter bears a return request, it must be returned at the time fixed by the request; if it be without such request, it is to be returned at the end of thirty days. Registered letters are to be returned registered; ordinary letters are to be returned in the ordinary mails.

All undelivered letters which do not bear the names and addresses of the senders are to be returned at the end of thirty days from the date of receipt, through the Dead-Letter Offices of the two countries, as before.

As under the postal regulations of the United States, every letter that is registered *must* bear the name and address of the sender, it will be seen that none of this class of mail matter will undergo the delay of return through the Dead-Letter Office, but will be sent back, in case of non-delivery, direct to the sender.

IMPORTANCE OF THE REGISTRY SYSTEM.

The registry system, now in the thirty-third year of its existence—having been established on the 3d of March, 1855—has become, after many fluctuations in its prosperity, of inestimable value both to the Government and to the public, and it is therefore worthy of all the effort that the Department can exert to sustain and foster it. Feeling *thus* concerning it, I do not believe that within the scope of my official duties I can render any higher service to the Government than in com-

mending this great branch of the postal system to your own kind consideration, and in bespeaking for it from the country a greater patronage than it has ever received, though, as may be seen, this has been most generous.

During the first five years of the existence of the system it had intrusted to it about half a million letters a year; during the year just closed, the number of pieces carried by it was between 12,000,000 and 13,000,000. When it was begun the system was limited to the registration of letters; now, anything that is carried in the mails at all—the letter, the newspaper, the book, and the article of merchandise—may receive the benefit of its ministrations. At first, every letter placed in its care was carried openly throughout its journey in the mails, and was separately handled; now, every such letter is not only placed in a strong envelope provided by the Department, which must be receipted for whenever separately handled, but probably 90 per cent. of all of them are placed in secure through pouches, which pass unopened from point to point in their travels, which are receipted for by every official who has them at any time in his custody, and which, through the use of tell-tale locks, rarely admit of any depredation without exposing the person committing it. For many years after the establishment of the system, it took in only the domestic mails; its operations now extend to every quarter of the globe, while with some countries—with Canada and Cuba and probably soon with Mexico—its connections are as close and almost as frequent as between the several States of our own country.

During the greater part of the entire period of the history of the system, it has no doubt been operated at a loss to the Government; it probably is now not only self-supporting, but a source of revenue to the Department—not enough to justify any reduction of the fee from which it derives its support, but sufficient to give it dignity as one of the financial pillars of the postal service.

The system is now conducted under rigid rules tending to fix responsibility in cases of neglect or misconduct; it carries matter intrusted to it with as much expedition as is compatible with safety; its losses are but small in comparison with the extent of its business, and every year that is added to its career, I firmly believe, brings with it some increase in its efficiency and security.

To the public, comprehended within the great cities of the country, the registry system is of immense importance, carrying as it does to and fro between them annually values of almost fabulous amount; to the inhabitants of smaller places, however—where railroads do not reach, where banks do not exist, where the money-order system has not been extended—it is one of the necessities of society, being the only means of transmitting money that is at once safe, inexpensive, and accessible to everybody, or of sending and receiving the thousand and one varieties of articles in commercial exchange that are of prime importance in every walk of life. To the Government its value can hardly be calculated, all the Departments being more or less dependent upon its services. If for no other reason than its importance to the operations of the Government, the registry system, in my opinion, would be worth nearly all the money that it now costs. In connection with this view of the subject, I call special attention to Table No. 15, attached to this report, showing that during the past fiscal year the registry system safely carried for the several branches of the Government, money, bonds, and other securities amounting to the enormous value of over \$300,000,000, and this amount is exclusive of millions that I have not been able to obtain any accurate account of.

DIVISION OF FILES, RECORDS, AND MAILS.

The total number of letters and parcels received, opened, and examined during the year was 1,185,260, an increase of 4,860 over the number of the previous year, which, considering the detachment of the dead-letter division from the office, is a very considerable increase.

Among these letters and parcels 462 contained money, and 20,602 contained stamps, stamped envelopes, and postal cards returned to the Department by postmasters for redemption. The number of registered letters received was 26,601.

Of the letters received 30,085 were briefed and recorded and filed after final action was taken upon them. The number of letters written and copied in the office and mailed was 16,080. This does not include circular letters and short communications upon routine matters not necessary to copy.

BUSINESS OF DEAD-LETTER OFFICE.

As what was formerly known as the dead-letter division of this office is no longer connected with it, having been made, by your order, an independent bureau from the beginning of the fiscal year, no account of its business is given in this report.

I cannot refrain from saying, in connection with this separation, that my official experience since the date of my appointment satisfies me that the act was an eminently proper one. The business of the Third Assistant Postmaster-General's office is now of sufficient magnitude to require the intelligent and undivided attention of the officer in charge of it; its organization is simpler and more systematic; and its jurisdiction—especially since the transfer to it of certain additional business by the new postal regulations, elsewhere adverted to—takes in only matters that seem to be in harmonious relation one with another, and that are in strict keeping with the character of the office as the financial branch of the Department.

I think it likely that the change has brought about good results, also, in the Dead-Letter Office.

ADMINISTRATION OF OATHS BY POSTMASTERS.

In two general branches of postal business affecting the operations of this office, cases not infrequently arise occasioning a slight tax upon the public, which, in my opinion, ought to be prevented, and which can be by an amendment of the present law.

Under the postal regulations every publisher of a newspaper or periodical desiring to enter his publication at the post-office as second-class matter, is required to answer under oath certain interrogatories intended to give the Department full, explicit, and reliable information in the case. This, of course, necessitates a formal affidavit, acknowledged before some officer authorized to administer oaths, for which a fee has to be paid; and it not unnaturally creates some dissatisfaction, both on account of the expense and the inconvenience involved.

Again, when any loss or supposed loss of registered matter sent in the mails is reported by the person suffering the loss, a list of questions affecting the matter is usually sent to him, which he is expected to answer under oath, causing, as in the other class of cases, discontent, and occasionally, through the refusal of the party called on to make the necessary oath, interfering to some extent with the prompt and satisfactory commencement of an investigation.

In every case of both these kinds, all dissatisfaction and delay could be avoided by vesting postmasters with authority to administer the necessary oaths, and by requiring that it shall be done without charge. I think it not unlikely, too, that other cases might arise, also, where it would be convenient to have postmasters given such authority; to be confined, of course, to matters relating to postal business.

I accordingly suggest that Congress be requested to grant to postmasters authority to administer oaths, in every case where it may be required by law or regulation to be taken, in matters relating to postal business.

SECOND-CLASS MATTER UNDER NEW POSTAL REGULATIONS.

Since the promulgation of the new postal regulations on the 15th September, 1887, this office, under authority thereof, has been attending to business connected with the entry to the mails of newspaper and periodical matter, and of conducting all correspondence relating thereto. Under this new arrangement a complete record of publications, admitted to the mails throughout the country as second-class matter, has been commenced and will hereafter be kept in this office, together with copies of the publications themselves; new blanks have been prepared and furnished to postmasters, which simplify to some extent the former manner of transacting business relating to second-class matter; and instructions have been given by which the new regulations as to these subjects have been brought to the special attention of all postal officers.

Although a considerable amount of additional work has thus been thrown upon this office, I do not apprehend that any increase of the clerical force, beyond, perhaps, the addition of two clerks, will be necessary to attend to it.

I am sure that the new regulations as to second-class matter, requiring as they do a rigid scrutiny of all publications before they are entered at the post-office, and transferring from postmasters to the Department the entire responsibility of finally admitting such matter to the mails, will be advantageous in many respects to the postal service.

I feel it to be my duty, however, notwithstanding the limited experience I have had with relation to the entry, mailing, and transmission of second-class matter, to call attention to several defects in the present system which, in my opinion, partake strongly of the nature of abuses.

DEFECTIVE METHOD OF PAYING POSTAGE.

One of the defects referred to lies in the peculiar method of paying and receiving postage on this class of matter. Instead of being required to place upon the matter mailed postage-stamps in appropriate amounts to pay the postage, as is the rule with all other classes of mail matter, publishers are permitted to bring their publications in bulk to the post-office, and there pay the necessary amount of postage in money, the postmaster giving a receipt therefor, made out on a blank taken from a book of forms kept for the purpose, and attaching to the retained stub of the receipt a corresponding amount of postage-stamps from the stock in his hands, which stamps he is expected to cancel. Quarterly reports of the amounts thus collected are required to be made to the Department, accompanied with the stubs containing the canceled stamps.

Under such a system it seems to me that fraud against the Government is comparatively easy. If, for example, the postmaster should

fail to receipt to the publisher when matter is mailed (and this has frequently occurred, whether by design or not is immaterial), it is next to impossible to ascertain whether the necessary stamps have been attached to the stub of the receipt book or not; and so long as the postmaster may attach in any such case whatever amount of stamps as may suit his purposes, he may, of course, retain the surplus in money without fear of detection. The chance of discovering such a fraud, if the publisher should lose his receipt when one is given—another thing of common occurrence—is equally remote. In passing, it may be remarked that the failure of the publisher to take a receipt, or his loss of it after he gets it, should not excite surprise; for, as the law requires postage to be paid at the time of mailing—or, in other words, as the postmaster is forbidden to give credit for postage—the actual mailing of the matter is *prima facie* evidence of the payment of the postage. So that receipts, except as mere memorandums of mailing, are valueless, and publishers, as a rule, are probably careless about demanding or retaining them. But even if the postmaster should give the receipt in every case, and the publisher should safely keep it, the Department still may be easily defrauded; for, except in cases where postmasters are suspected of fraud and special investigations are thereupon made, the receipts are never called in and examined; indeed, the verification of postmasters' returns by a comparison with these receipts would, owing to the immense number of them, be impracticable without a large increase of the force of the Department; so that, in actual practice, the postmaster's return, if it agrees with the amount of stamps found attached to the accompanying stubs, is accepted unquestioningly, without knowing whether it is fraudulent or not.

A case of fraud of this character which occurred about a year ago in the Chicago post-office, where a subordinate of the postmaster was by chance found to have been for years in the habit of retaining large sums of money derived from second-class postage—the returns made to the Department not giving the slightest indication of the fraud—is an illustration of how easily the thing may be done. Besides these opportunities for fraud, there is the further one of collusion with the publisher, in which event nothing can be done to prevent or detect the cheat, unless either the publisher or the postmaster should voluntarily confess it. The opportunity is still better where the postmaster, as is sometimes the case, is also the publisher. I do not mean to be understood as intimating that frauds of this character exist; my purpose is simply to show that the system admits of their ready perpetration.

Besides the above objections to the system, there is the additional one that, from the absence of stamps on matter mailed as second-class, the fact of prepayment of the postage is in very many cases of necessity a matter of doubt to the delivering postmaster. There being on the matter no evidence whatever of prepayment, not even at times a printed statement that the publication has been regularly entered as second-class matter, the delivering postmaster can not, in any case where his doubts may be excited, protect the Government against wrong without delaying the matter and making special inquiry of the Department or the sending postmaster. In the great majority of cases he must simply take it for granted that everything is right and deliver the matter without inquiry. I have reason to believe that a great deal of this matter goes through the mails either without prepayment at all or paid at a lower rate of postage than is required by the law and the regulations. In fact, the quantity of second-class matter that, by reason of the low rate

of postage, is now going through the mails is so great that proper examination, even at the mailing offices, is often impossible.

Again, this peculiar system of paying postage necessitates the examination of postmasters' books and returns at the Department, a corps of clerks being usually kept busy on this work. Every quarter tons of the stubs, containing the canceled newspaper stamps, are sent to the Department for comparison with postmasters' reports, and although this work is but of small importance as a means of detecting fraud, it is of value in correcting mistakes that now very frequently occur, but which would not occur under a different system.

It is hardly necessary to state, that if publishers were required to purchase stamps of suitable denominations, running, say, from a minimum value of one-eighth of a cent to any required value above that, or what, perhaps, would be better, to use stamped bands or labels so made that their use would necessitate their cancellation, and to attach such stamps or bands to the matter mailed, in every instance of separate address, similarly to what is done with all other classes of matter, all opportunity for fraud or abuse, as above indicated, and all cumbrous and unnecessary machinery in the collection of postage and the examination of returns, would disappear.

Without being prepared at this time to go into particulars, I think it only necessary to say that I am strongly inclined to believe that if the necessary authority were given by an amendment of the present law, a new system embodying such a change could be devised which would not materially interfere with the convenience of publishers—except to require them to perform labor that is properly their own—and without interfering with the present rate of newspaper and periodical postage, except, perhaps, where single copies of papers might be mailed, in which event a slight excess over an exact fraction of the pound rate would be necessary.

ABUSE FROM THE STATUTORY DEFINITION OF A PERIODICAL.

Under the law the conditions upon which a publication shall be admitted to the second class of mail matter are as follows:

- (1) It must regularly be issued at stated intervals, as frequently as four times a year, and bear a date of issue, and be numbered consecutively.
- (2) It must be issued from a known office of publication.
- (3) It must be formed of printed sheets, without board, cloth, leather, or other substantial binding, such as distinguished printed books for preservation from periodical publications.
- (4) It must be originated and published for the dissemination of information of a public character, or devoted to literature, the sciences, arts, or some special industry, and having a legitimate list of subscribers: *Provided, however,* That nothing herein contained shall be so construed as to admit to the second-class rate regular publications designed primarily for advertising purposes, or for free circulation, or for circulation at nominal rates. (Act of March 3, 1879, section 14, 20 Stats., 359.)

Under these conditions—which were intended to distinguish what are generally known as newspapers and periodicals from books—it may be demonstrated that almost anything in the nature of a book, provided it be without board, cloth, leather, or other substantial binding, may be brought within the privileges of the second-class rate of postage, and the object of the law accordingly defeated.

Let it be supposed, for example, that a publisher wishes to issue the works of Shakspeare in such a way as to secure the privilege of the pound rate of postage when the book is sent in the mails. Every one knows that such a publication is a book, no matter how it may be published;

it is certainly not a newspaper or a periodical in the universally accepted sense of these words. The publisher, however, means to have it admitted as such, so he arranges to issue it monthly, giving each part a number and a date, places upon the title-page a statement of the place of publication, and binds the parts in paper covers. He thus easily complies with three of the above-mentioned conditions. Next, he publishes a prospectus in which the publication is claimed to be devoted to literature, and he secures through his agents subscribers to the work, in this way complying with the fourth condition of the law.

It must not be supposed that this is merely a hypothetical case. Instances of this exact character have occurred. The postmaster at New York has called attention to the fact that a dictionary—nothing more nor less—issued in this way, was passed through the mails at the pound rate of postage. Not only this, but tons upon tons of books—called “Libraries” or “Series”—being purely and simply paper covered books or reprints of books, having, probably, no list of subscribers other than booksellers, who buy them just as they buy other books—are every day going through the mails as second-class matter. And the number is constantly on the increase. Unless a check is put to this abuse there is no telling to what extent it will go. Already the mailing of matter of this character, together with pretended sample copies of publications, reference to which is made hereafter, has become so great that the intelligent and careful handling of it at many offices is impossible; so that there is little doubt that a great deal of matter unquestionably subject to a higher rate of postage is constantly smuggled through the mails as second-class matter.

I can not believe that the law was ever intended to allow this class of literature—some of it of very questionable value—to go through the mails at the rate of a cent a pound, while the Bible, the school-book—every other good book that reputable publishers issue under its true character—has to bear postage at the rate of 8 cents a pound.

As a remedy for the evil I suggest the passage by Congress of the following:

That hereafter no publications shall be admitted to the mails as second-class matter that are but books or reprints of books, whether they be issued complete or in parts, whether they be bound or unbound, or whether they be sold by subscription or otherwise.

ABUSE IN THE MAILING OF SAMPLE COPIES.

Under the law as it now stands, publishers and news agents have the right to mail sample copies of their publications at the same rate as for copies to actual subscribers; and as no limit to this privilege is prescribed, postmasters are bound to receive, in every case where a publication is legitimate, any number of sample copies that may be offered. The result is that in many cases publications intended primarily for advertising purposes, and for free circulation, or circulation at nominal rates, originally presented under the guise of bona fide publications, and purporting to have legitimate lists of subscribers, obtain the privilege of admission to the second class, and almost immediately afterwards their publishers flood the mails with sample copies, or copies gratuitously issued. Many cases have come to my notice where there is reason to believe that immense editions of such publications are sent through the mails in accordance with previous guaranties to advertisers; that is to say, the publishers have not aimed to obtain subscribers, but simply to issue their periodicals as advertising sheets with a guar-

anty to their patrons of a large circulation. It is not an exaggeration to say that in some of these cases the sample copies are perhaps a hundred fold the edition to bona fide subscribers.

It may be said that in all such cases as these the character of the publication is manifest, and that the postmaster has it in his power to make the facts known to the Department, so that the evil may be corrected. But the difficulty is, as before intimated, that the publication when admitted has all the characteristics of second-class matter, and being thus admitted, the publisher has the right to mail unlimited quantities of it; in the second place, it is not always possible for the postmaster or the Department, without a special investigation, to determine whether the publication is being issued gratuitously or not; and, thirdly, when the publication is discovered to be merely for advertising purposes, it is only after millions of copies have been circulated at the pound rate.

Aside from cases of this kind, it is perhaps a common thing for even legitimate periodicals to begin business with a merely nominal list of subscribers, depending mainly upon the continuous issue of specimen copies to build up a profitable subscription list.

It seems to me that the law was never intended to give to enterprises of the foregoing character the privileges they are now enjoying; and it never could have been foreseen that the very liberal rate of postage on legitimate newspapers and periodicals would be taken advantage of by the publishers of mere rubbish, to the injury of genuine publications.

A remedy for the wrong might, perhaps, be secured by limiting the number of sample copies to a reasonable proportion of the actual subscription list, and to require that every copy sent out as a sample copy should be marked as such under penalty; and never to permit the mailing, except at third-class rates, of even this proportion of sample copies without permission previously obtained from the Department.

* * * * *

I have the honor to be, very respectfully, etc.,

H. R. HARRIS,

Third Assistant Postmaster-General.

Hon. WILLIAM F. VILAS,
Postmaster-General.

REPORT OF THE SUPERINTENDENT OF THE DEAD LETTER OFFICE.

POST-OFFICE DEPARTMENT,

DEAD LETTER OFFICE,

Washington, D. C., August 15, 1887.

SIR: The Dead Letter Office, which formerly constituted a division of the office of the Third Assistant Postmaster-General, was, in pursuance of his recommendation, approved by you and sanctioned by legislative action in due course, erected into an independent bureau on July 30, 1886.

The duties of this office consist generally in the examination and forwarding, or return, of all letters which for any cause have failed of delivery; the inspection and return to the country of origin of undelivered foreign matter; the recording and restoration of all valuable letters and parcels which are either unmailable or unclaimed; the care and

proper disposition of all money, negotiable paper, and other articles of value found in undelivered mail matter; the ascertaining and correcting of errors of postmasters in the treatment of undelivered mail matter, and all correspondence relating to these subjects.

I have the honor to submit herewith my report of its operations for the fiscal year ended June 30, 1887, which will be found to consist principally of statistics, tabulated in a form which it is thought will present the various details of its work in an intelligible and perspicuous manner.

The total number of pieces of original dead mail matter received at the Dead Letter Office during the year ending June 30, 1887, was 5,335,363, an increase of 543,665 pieces, or nearly 11½ per cent. over the number received during the last fiscal year, or about 17 per cent. over that received during the year previous. There were also received 239,816 letters without valuable inclosures returned to the writers, but again sent to the Dead Letter Office as undeliverable, making, with the original matter received, and 263 held-for-postage letters and 3,523 letters of foreign origin on hand June 30, 1886, the total number of pieces treated during the year 5,578,965, classified as follows:

1. Domestic mailable letters:		
(a) Ordinary unclaimed letters.....	3,981,420	
(b) Letters returned from hotels.....	118,445	
(c) Letters bearing fictitious addresses.....	21,504	
(d) Letters returned from foreign countries.....	161,392	
(e) Ordinary letters without inclosures sent to writers and returned on failure to deliver.....	239,816	
		4,522,577
2. Domestic unmailable letters:		
(a) Letters containing unmailable articles.....	2,155	
(b) Letters held for postage.....	128,732	
(c) Letters misdirected or only partially addressed.....	377,997	
(d) Letters without address.....	19,110	
		527,994
3. Domestic parcels of third and fourth-class matter.....		67,823
4. Letters mailed in foreign countries.....		412,196
5. Printed matter, samples, etc., mailed in foreign countries and return- able.....		30,672
6. Registered articles:		
(a) Of domestic origin.....	4,388	
(b) Of foreign origin.....	13,315	
		17,703
Total as before.....		5,578,965

The mail matter treated during the year was disposed of as follows:

Domestic mailable letters:	
Card and request letters delivered unopened.....	70,712
Letters opened (disposed of as detailed below).....	4,212,049
Ordinary letters without valuable inclosures sent to writers and re- turned on account of failure to deliver and subsequently destroyed..	239,816
Domestic unmailable letters:	
Held-for-postage letters forwarded unopened to addresses on receipt of postage.....	4,514
Held-for-postage letters on hand at close of year.....	222
Misdirected letters forwarded unopened after correction of addresses..	83,702
Held-for-postage letters opened (disposed of as below).....	123,996
Misdirected letters opened (disposed of as below).....	294,295
Letters without address opened (disposed of as below).....	19,110
Letters containing unmailable articles opened (disposed of as below)...	2,155
Domestic third and fourth-class matter:	
Parcels opened and disposed of as below.....	67,823

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Foreign matter:

Letters returned to country of origin or delivered to addressees	403,605	
Letters on hand at close of year	8,591	
Parcels of printed matter, samples, etc., returned unopened or delivered to addressees	30,672	442,868

Registered articles:

Domestic—		
Of domestic origin, delivered unopened	2,250	
Of domestic origin, opened	2,138	4,388

Foreign—

Returned to country of origin, or delivered to addressees	13,003	
On hand at close of year	312	13,315

Total 5,578,965

The following was the disposition of mail matter opened in the Dead Letter Office.

Delivered:

Letters containing money	12,725	
Letters containing drafts, notes, money-orders, postal notes, and other evidences of monetary value	21,869	
Letters containing receipts, paid notes, etc	31,230	
Letters containing postage-stamps	98,129	
Letters containing nothing of value	1,937,926	
Photographs	29,497	
Parcels of merchandise, books, etc	32,039	2,163,414

Returned to owners and awaiting evidence of delivery:

Letters containing money	906	
Letters containing drafts, notes, etc	2,314	
Registered parcels of merchandise, books, etc	37	3,257

Under treatment looking to delivery:

Letters containing money	1,369	
Letters without inclosures	42,978	44,347

Filed upon failure to deliver, subject to reclamation:

Letters containing money	4,498	
Letters containing drafts, notes, etc	1,371	
Letters containing receipts, paid notes, etc	3,329	
Letters containing postage-stamps	5,649	
Photographs	5,753	
Parcels of merchandise, books, etc	39,601	60,201

Destroyed:

Letters without inclosures which could not be returned to writers	2,464,760	
Parcels containing pamphlets, fruit, seeds, medicine, etc	9,887	2,474,647

FOREIGN DEAD MAIL MATTER.

Returned to country of origin:

Registered letters	12,596	
Ordinary letters	391,990	
Parcels of printed matter, samples, etc	24,944	429,530

Delivered to addressees on application:

Registered letters	183	
Ordinary letters	203	
Parcels of printed matter, samples, etc	263	649

Misdirected matter forwarded to corrected addresses:			
Registered letters	224		
Ordinary letters	11,412		
Printed matter, samples, etc.	5,465		
			17,101
On hand under treatment at close of year:			
Registered letters	312		
Ordinary letters	8,591		
			8,903
			456,183

MATTER RETURNED FROM FOREIGN COUNTRIES.

The number of pieces of mail matter originating in the United States and returned to Dead Letter Office as undeliverable were classified as follows:

Registered letters	1,832
Ordinary letters	161,392
Postal cards	12,642
Parcels of printed matter, samples, etc.	37,451

DEAD REGISTERED MATTER.

Of the 17,703 unclaimed registered letters and parcels received, there were—

Delivered to addressees or restored to senders	16,661
Returned to postmasters for delivery and awaiting receipt	88
Filed upon failure to discover ownership and awaiting reclamation	954

VALUE OF INCLOSURES IN MAIL MATTER RESTORED TO OWNERS.

The following shows the number of letters restored to owners or in course of restoration, with the character and value of contents:

Number of letters containing money restored to owners	12,725
Amount of money inclosed therein	\$22,639.12
Number of letters containing money outstanding in the hands of postmasters for restoration to owners	906
Amount of money inclosed therein	\$2,744.27
Number of letters containing drafts, checks, notes, money-orders, etc., restored to owners	21,868
Value contained therein	\$7,581,761.10
Number of letters containing drafts, notes, checks, money-orders, etc., outstanding in the hands of postmasters for restoration to owners ..	2,314
Value contained therein	\$304,079.57

REVENUE DERIVED FROM DEAD MAIL MATTER.

The amount of revenue derived from dead matter during the year and delivered to Third Assistant Postmaster-General for deposit in the Treasury is shown by the following statement:

Amount separated from dead letters that could not be restored to owners ..	\$6,672.06
Amount realized from auction sale in December, 1886, of parcels of merchandise which could not be restored to owners	2,921.12
Total	9,593.77

POSTAGE-STAMPS.

The following amounts of postage-stamps were received in the Dead Letter Office from the several sources named, and were destroyed under proper supervision:

Separated from dead letters for which no owner could be found	\$463. 04
Found loose in mails and sent to Dead Letter Office by postmasters	401. 63
Received for payment of postage on held-for-postage matter forwarded to destination, and parcels of third and fourth-class matter returned to senders (sent out from Dead Letter Office under an official penalty envelope) ..	678. 50
Received from postal administration of Canada, United States postage-stamps accepted by that administration in payment of postage on matter held for postage in Canada, in accordance with the agreement between the two countries	185. 74
Total value of stamps destroyed	1,728. 91

In addition to the above, postage-stamps to the value of \$1,219.55 have been received and affixed to parcels of matter addressed to foreign countries, not transmissible in the mails unless prepaid at letter rates of postage.

In the exchange of postage-stamps mutually accepted by the United States and Canada in the payment of postage on short-paid matter addressed to either country, there have been received from the Canadian administration United States postage-stamps to the amount of \$185.74; there were returned to Canada by this office Canadian stamps amounting to \$117.98, leaving a balance in favor of the Canadian office of \$67.76, which has been duly reported to the Third Assistant Postmaster-General for settlement.

DEAD MATTER GIVEN TO CHARITABLE INSTITUTIONS.

During the year, 18,182 magazines, pamphlets, illustrated papers, picture cards, etc., which could not be restored to the owners, were distributed amongst the inmates of the various hospitals, asylums, and other charitable institutions in the District of Columbia, as heretofore, by order of the Postmaster-General.

The following shows the number and character of the matter distributed:

Magazines	1,085
Pamphlets, etc	3,709
Illustrated papers	4,883
Picture cards, valentines, etc	8,505
Total	18,182

Particular attention is invited to the table exhibiting in detail the amount of the several classes of matter received and handled during the last fiscal year as compared with corresponding items in the preceding year. It will be observed that the large increase in the total number of letters received, viz, 543,665—or about 11 $\frac{1}{4}$ per cent. more than during the previous year—attaches, with few exceptions, proportionately to each item involved, in a ratio probably corresponding to the increase of matter committed to the mails. Part of this extraordinary increase is doubtless due to the more efficient observance by postmasters of the regulations requiring prompt and complete returns of undelivered mail matter. It is certain that a considerable amount has been sent which was found to have accumulated for long periods, ex-

tending in some instances back through several years. Another portion of the increase may be accounted for in the greater care exercised by postmasters and postal clerks in detecting and sending up matter not properly transmissible in the mails. In other words, the amount of matter which reaches this office is justly to be considered not only with reference to the volume of matter intrusted to the mails, but to the degree of diligence observed in properly withdrawing unmailable matter and promptly returning for disposition that which is undeliverable.

The only decrease worthy of special note is found in the quantity of third and fourth-class matter of obvious value, which decrease is believed to be largely due to the more general practice of senders in requesting its return by indorsement on the wrapper, thus enabling postmasters to return it direct under the conditions required by postal regulations.

The increase of mail matter received entails upon the clerical force of the office as now constituted an amount of labor not commensurate with the promptitude and care which it has heretofore received, and with which it ought always to be treated, and I respectfully recommend that such addition to the force be made as may be found necessary to give to the work that exact, systematic, and thorough disposition to which it is fairly entitled.

I have the honor to be, very respectfully, your obedient servant,

JOHN B. BAIRD,
Superintendent.

Hon. WILLIAM F. VILAS,
Postmaster General.

REPORT OF THE SUPERINTENDENT OF THE POSTAL MONEY-ORDER SYSTEM.

POST-OFFICE DEPARTMENT,
OFFICE OF SUPERINTENDENT OF MONEY-ORDER SYSTEM,
Washington, D. C., November 7, 1887.

SIR: I have the honor to submit herewith the report for the fiscal year ended June 30, 1887, of the Postal Money-Order System of the United States, which, in no small degree, is a meter of the financial condition of the large class of people of small means who have occasion to make what might be termed domestic remittances.

Table A, annexed hereto, exhibits by fiscal years, from the establishment of the business until the close of the term covered by this report, the total amount of domestic money-order transactions.

NUMBER OF MONEY-ORDER OFFICES.

There were in operation June 30, 1886, 7,357 domestic money-order offices; there were established during the year just closed 521; and there were discontinued 25; so that on June 30, 1887, the total number of such offices, was 7,853. Since that date 390 offices have been added to the list, and 7 offices have been discontinued; making the total number of money-order offices in operation at the date of this report 8,236.

NUMBER OF POSTAL-NOTE OFFICES.

The act of Congress approved January 3, 1887, empowered the Postmaster-General to extend the privilege of issuing postal-notes only, but not the right to pay them, to small post-offices where the extent of the postal business was insufficient to warrant the granting of money-order facilities, and thereby to afford the residents of such localities a cheap and convenient mode of making small remittances to the neighboring towns and larger cities.

On the 5th of July, 1887, 197 such postal-note offices were established, to which number 32 were added on the 3d ultimo, making 229 in operation at the date of this report.

It is not improbable that the number of such offices may be very largely increased within the coming year by reason of the circumstance that the Department, in a recently executed contract, made arrangements for supplying for their use books containing small quantities of postal-notes, thereby obviating the necessity of the exaction of heavy bonds to cover the postmasters' responsibility.

ISSUES AND PAYMENTS OF DOMESTIC MONEY-ORDERS.

The number of domestic money-orders issued during the year was 9,232,177, aggregating in amount	\$117,462,660.89
And the number of such orders paid during the same period was 9,139,562, of the value of	\$116,406,329.38
In addition to which money-orders were repaid to the number of 71,265, amounting to	857,697.28
Making the total amount of payments and repayments	117,264,026.66
And the excess of issues over payments and repayments	198,634.23
The gross amount of the fees received by postmasters from the public for the issue of domestic money-orders was	912,876.40

As compared with the preceding year the number of orders issued, therefore, increased by 1,291,875, or 16.27 per cent.; the number of orders paid by 1,262,249, or 16.02 per cent.; and the number of orders repaid by 12,418, or 21.10 per cent.

The average amount of the orders issued was \$12.72, being \$1.61 less than the average for the previous year.

The decrease in gross amount of fees received was \$8,900.63, and the average fee was 9.88 cents, or 1.73 cents less than that of the preceding fiscal year.

These figures furnish conclusive evidence of the fact that the decrease at the beginning of the last fiscal year of the fee for orders not exceeding \$5 from 8 cents to 5 cents very materially increased the sale of such small orders.

This is the obvious deduction from the great diminution of the average fee, which in 1884 was 12.12 cents; in 1885, 11.96 cents; and in 1886, 11.61 cents; and from the very considerable decrease in the average amount of the orders issued, the same being as stated, \$12.72, while during 1884 the average amount was \$15.58; during 1885, \$15.26; and during 1886, \$14.33.

The increase in the amount of orders issued was \$3,643,139.68, or 3.2 per cent.; the increase in the amount of orders paid was \$3,334,339.90, or 2.95 per cent.; and the increase in the amount of orders repaid was \$44,223.72, or 5.44 per cent.

ISSUES AND PAYMENTS OF POSTAL NOTES.

The number of postal notes issued during the year was 6,307,552, of the total value of.....	\$11,763,324.81
And the number of notes paid during the same time was 6,204,453, amounting to.....	\$11,572,081.27
While the notes repaid at the offices of issue numbered 81,553, and aggregated	154,686.24
Making the total amount of payments and repayments.....	11,726,767.51
And the excess of issues over payments and repayments	42,657.30
The aggregate amount of fees received from the public was.....	189,844.56

This statement shows an increase in the amount of postal notes issued of \$50,814.76, equivalent to .43 per cent.; in the amount of postal notes paid and repaid of \$59,836.78, equivalent to .51 per cent.; and in the amount of fees received of \$9,511.41, or 5.27 per cent. It likewise exhibits an increase in the number of postal notes issued of 308,124, or 5.13 per cent.; and of the number of postal notes paid and repaid of 333,806, or 5.61 per cent.

Here also is plainly discernible the influence of the reduction of the fee upon money-orders for small amounts, and the consequent selection by many of the safer money-order when the amount was less than \$5, for the ratio of increase in the number of postal notes issued was 18.61 per cent. during the fiscal year 1886, and the ratio of increase in the amount thereof was 17.22 per cent.

The average amount of the notes issued was \$1.87, the same being 8 cents less than the average of the fiscal year ended June 30, 1886.

WAR CLAIMS.

During the past fiscal year the Paymaster-General of the United States Army continued the practice of effecting payment, by means of money-orders, of the claims of colored soldiers for services rendered in the late war. These orders to the amount of \$25,723.16—an increase of \$19,375.41 over the previous year—were transmitted by this office to the respective paying postmasters, accompanied by very precise instructions regarding the identification of the payees. These cases not infrequently lead to disputes between claimants, and give rise to much laborious correspondence on the part of this Department.

DUPLICATE MONEY-ORDERS.

There were issued by this office during the last fiscal year 19,346 duplicate money-orders, an increase of 1,228 over the preceding year; and 4,515 duplicate postal notes, a decrease, as compared with the previous year, of 194.

These duplicates were drawn, in accordance with law, upon applications setting forth the loss or destruction of the originals in the case of money-orders; and in the case of both money-orders and postal notes upon applications accompanied by the originals, when the latter had become invalid by reason of non-payment within the prescribed period of limitation; and in the case of money-orders alone when the originals had received more than one indorsement, in violation of law, or had been drawn in favor of lotteries, gift enterprises, or similar concerns declared by the Postmaster-General to be fraudulent within the terms of section 4041, Revised Statutes.

Table B, in the appendix, exhibits separately the number of duplicate postal notes and of duplicate money-orders issued, and classifies the causes which rendered necessary the issue of the latter.

DRAFTS AND TRANSFERS.

Postmasters at money-order offices are provided, when occasion requires, with funds for the payment of money-orders by means of drafts upon the postmaster at New York, N. Y. If the postmaster's receipts from the sale of money-orders ordinarily suffice for the payment of orders drawn upon him, and he require additional funds only in an occasional emergency, a single draft is transmitted to him. If the current of his business is such that he is continuously called upon to pay orders for amounts exceeding his receipts, he is furnished with a small book of drafts, and with a letter of credit, for a convenient round sum, upon the postmaster at New York. This credit may be renewed from time to time, as may the supply of drafts.

The total amount of drafts paid by the postmaster at New York during the fiscal year ended June 30, 1887, was \$12,663,830.93.

Before asking aid from the Department, however, the postmaster must exhaust his available postal funds received by him from the sale of stamps, stamped envelopes, etc. Such funds are transferred from the postal to the money-order account, and notice thereof forwarded to the Department. These transfers are partially repaid by similar transfers from time to time from the money-order to the postal funds, and once each quarter the balance due the postal fund, upon settlement of accounts by the Auditor, is reported by the latter, and the amount thereof is deposited under direction of this office with the assistant treasurer of the United States at New York to the credit of the Treasurer of the United States for the service of the Post-Office Department.

The quarterly transactions of this character for the past fiscal year as reported by the Auditor, are shown in the following statement:

	Quarter ended September 30, 1886.	Quarter ended December 31, 1886.	Quarter ended March 31, 1887.	Quarter ended June 30, 1887.
From postage to money-order funds.....	\$141, 239. 20	\$154, 847. 85	\$148, 136. 81	\$148, 582. 87
From money-order to postage funds	19, 587. 59	22, 210. 09	14, 503. 86	13, 164. 05
Balance due postage funds.....	121, 641. 61	132, 637. 76	133, 632. 95	135, 418. 82

SUMMARY.

Balances due postage funds as follows:

Quarter ended September 30, 1886.....	\$121, 641. 61
Quarter ended December 31, 1886.....	132, 637. 76
Quarter ended March 31, 1887.....	133, 632. 95
Quarter ended June 30, 1887.....	135, 418. 82
Total.....	523, 331. 14

Amounts retransferred under the direction of Superintendent, and deposited with assistant treasurer at New York to credit of Treasurer of United States for service of Post-Office Department:

January 29, 1887.....	\$108, 991. 03
May 11, 1887.....	132, 637. 76
October 13, 1887.....	133, 632. 95
November 5, 1887.....	135, 418. 82
To which should be added a balance due the money-order fund June 30, 1886, of.....	17, 750. 58
Total.....	523, 331. 14

Exception to the mode of furnishing postmasters at money-order offices with funds is made in the case of offices situated upon the Pacific coast, which, on account of their great distance from the capital, are

more conveniently supplied from San Francisco, Cal., and Portland, Oregon.

The former office transmitted to neighboring post-offices during the year just past the sum of \$153,633, and the latter the sum of \$69,140

REMITTANCES OF SURPLUS MONEY-ORDER FUNDS.

All postmasters at money-order offices are required by the regulations of the Department to transmit daily to some other post-office, designated as a depository, their surplus money-order funds, comprising all such funds in excess of the sum of the unpaid advices which have been in the postmaster's hands less than two weeks, or in excess of the fixed sum which the postmaster is authorized to retain, and which is termed his reserve.

The total amount of such remittances forwarded by mail during the last fiscal year was \$98,259,379.82.

LOST REMITTANCES.

There were brought to the notice of this office during the last fiscal year 57 cases of the alleged loss of remittances of surplus money-order funds, 6 of which were actually forwarded during the previous year, but the loss of which was not notified to the Department until after its close.

There were subsequently recovered the amounts of 4 remittances, aggregating \$206, and the correspondence in the possession of this office relating to the remaining 53 remittances, of the total value of \$4,312, was referred to the Assistant Attorney-General for the Post-Office Department, so that he might consider the cases, and prepare them for settlement by the Postmaster-General, who is authorized by the act of Congress of March 17, 1882, to allow postmasters credit for such losses if incurred without fault or negligence on their part.

Table C, in the Appendix, contains a complete description of all the remittances in question.

ERRONEOUS PAYMENTS OF MONEY-ORDERS.

There were received at this office in the past year complaints regarding the improper payment of 47 money-orders, the same being in the ratio of one order to each 194,459 money-orders paid.

Table D, in the Appendix, includes the full particulars of 134 money-orders said to have been wrongfully paid, the total amount of which is \$3,047.21; of these 46, amounting to \$1,151.74, had remained unsettled June 30, 1886, and 41 others, arising before July 1, 1886, were not reported to this office until after that date.

From the table in question it appears: 1. That post-office inspectors succeeded in recovering and in paying to the owners the sum of \$634.23, the amounts of 34 orders. 2. That 18 orders, of the total value of \$456.61, had been correctly paid in the first instance. 3. That postmasters at fault for failure to use due precaution under the regulations were charged with the amounts of 39 orders, in all \$646.36, which they were directed to pay over to the true payees. 4. That the United States assumed a loss in 4 cases, amounting to \$120.66, where the blame for wrong payment was not sufficiently established to warrant a demand for restitution upon the postmasters. 5. That the payees of the orders in 5 cases, involving \$197, were held responsible because of their own negligence, and that claims to the amounts of 31 orders, a total of \$992.35, were unsettled on June 30, 1887.

REVENUES AND EXPENSES.

The Auditor for this Department has reported the receipts and expenses for the domestic money-order business for the past fiscal year to be as follows:

RECEIPTS.

Amount received for fees on orders issued.....	\$912,876. 40
Amount of gain.....	200. 52
Amount of premiums, etc.....	990. 65
Total.....	914, 076. 57

EXPENDITURES.

Amount allowed postmasters for commissions.....	\$297, 527. 51
Incidental expenses.....	92, 753. 65
Lost remittances, burglaries, etc.....	10, 507. 69
Bad debts.....	1, 669. 74
	\$402, 458. 59

Excess of receipts over expenditures, being gross revenue 511, 617. 98

As in former years, the item "incidental expenses" includes the cost of stationery used in post-offices exclusively in the transaction of money-order business, and of money-order blanks, blank-books, printed matter of all kinds, and money-order dating stamps.

The blanks, blank-books, and printed matter for the year cost \$48,679.15 on account of domestic business alone, and of this amount the sum of \$6,972.89 was paid for work and material ordered in the previous year. The total cost of blanks, blank-books, etc., for domestic and international money-order business and for postal-note business was \$54,090.65, of which \$7,901.87 were paid on account of requisitions of the preceding year.

The Auditor has also reported the revenues and expenses of the postal-note business for the year ended June 30, 1887, as follows:

RECEIPTS.

Amount received for fees on notes issued.....	\$189, 844. 56
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EXPENDITURES.

Amount allowed postmasters:	
For commissions.....	\$53, 701. 34
Incidental expenses.....	29, 169. 38
	82, 870. 72

Excess of receipts over expenditures, being gross revenue 106, 973. 84

In this statement the item "incidental expenses" is composed, for the most part, of the sums paid during the year for the blank postal-note forms, amounting in all to \$20,939.61.

THE INTERNATIONAL MONEY-ORDER BUSINESS.

On the 1st of April, 1887, two new money-order conventions went into operation, one between the United States and Norway, the other between the United States and the Netherlands, copies of which will be found in the Appendix.

It is not improbable that in the current year conventions for a similar purpose will be concluded with Denmark and the Empire of Austria-Hungary.

On June 30, 1886, there were 1,587 post-offices authorized to transact international money-order business; to this number 58 were added during the last fiscal year, and 3 were discontinued, making the total number of such offices June 30, 1887, 1,642.

Since the close of the year 60 additional international offices have been authorized to commence business, and 1 office has been discontinued.

At the date of this report, therefore, there are 1,701 money-order offices empowered to transact international as well as domestic money-order business.

STATISTICS OF THE INTERNATIONAL MONEY-ORDER BUSINESS.

The subjoined tabular statement exhibits the money-order transactions of the United States with each of twenty-two foreign countries, embracing the number and amount of such transactions, and likewise a comparison thereof with the numbers and amounts of the preceding year, so as to show both the amount and percentage of increase or decrease in each case:

Country.	No. of orders issued.	Amount of orders issued.	No. of orders paid.	Amount of orders paid.	No. of orders repaid.	Amount of orders repaid.	Amount of fees received.
Canadian.....	61,186	\$1,112,553.95	101,333	\$1,267,267.75	414	\$6,521.32	\$13,324.15
British.....	292,748	3,818,940.59	44,941	\$1,674,602.63	1,033	11,714.14	48,834.95
German.....	175,213	2,448,333.23	49,929	1,450,744.50	604	7,184.28	29,962.75
Swiss.....	25,746	437,235.71	6,500	180,477.41	82	1,445.85	5,183.25
Italian.....	27,420	702,553.50	1,374	37,640.21	95	1,383.44	7,586.45
French.....	12,955	191,141.78	4,036	53,350.98	110	1,455.76	2,336.45
Jamaica.....	180	3,035.71	2,014	90,389.54	4	69.34	37.00
New Zealand.....	327	6,983.13	1,803	22,233.73	1	9.74	50.75
New South Wales.....	274	6,354.51	1,344	24,009.45	5	74.11	71.00
Victoria.....	303	6,548.27	1,007	17,067.40	6	32.55	73.40
Belgian.....	1,894	31,088.51	1,250	34,051.14	13	182.59	374.50
Portuguese.....	382	9,090.63	403	19,557.39	5	96.65	101.25
Swedish.....	11,330	216,484.89	1,524	43,850.56	20	316.32	2,543.15
Tasmania.....	10	122.02	147	2,134.35	1	6.00	1.00
Windward Islands.....	149	2,186.52	1,401	47,091.03	2	5.01	23.75
Japanese.....	303	6,440.11	603	12,608.46	.....	.....	72.00
Cape Colony.....	52	998.92	237	3,350.01	1	4.87	11.00
Hawaiian.....	190	3,151.11	2,078	30,234.92	2	50.00	33.00
Queensland.....	42	599.85	373	5,512.63	.....	.....	7.00
Leeward Islands.....	81	946.06	138	3,246.89	.....	.....	13.90
Norway.....	1,275	25,962.15	127	3,034.16	.....	.....	24.10
Netherlands.....	339	4,728.78	185	3,418.47	.....	.....	61.40
Total.....	615,405	9,035,530.31	222,122	4,018,703.93	2,398	30,552.01	112,093.30

Country.	Amount of increase or decrease in orders issued as compared with 1885-'86.	Percentage of increase or decrease in issues.	Amount of increase or decrease in orders paid as compared with 1885-'86.	Percentage of increase or decrease in payments.	Amount of increase or decrease in fees received as compared with 1885-'86.	Percentage of increase or decrease in fees.
Canadian.....	\$213,319.97	27.99	\$25,406.36	2.04	\$236.35	1.80
British.....	921,158.70	31.79	18,027.98	2.74	1,832.30	3.94
German.....	247,933.04	11.22	9,097.95	0.63	3,971.05	*11.65
Swiss.....	131,843.91	43.17	6,561.16	3.77	602.90	14.73
Italian.....	125,816.22	21.81	812.38	2.20	401.70	*5.09
French.....	33,501.24	21.25	4,331.91	*5.67	48.35	*1.95
Jamaica.....	216.59	8.84	9,009.09	18.01	*5.90	*13.62
New Zealand.....	229.14	3.30	1,886.30	*7.82	11.20	*12.54
New South Wales.....	2,597.96	69.16	1,203.93	*5.11	15.40	*28.62
Victoria.....	1,346.44	25.64	1,524.61	9.80	1.70	3.71
Belgian.....	5,567.77	21.79	3,670.54	12.08	11.45	3.15
Portuguese.....	3,096.55	68.53	4,093.59	*20.33	122.65	*22.81
Swedish.....	103,071.39	90.78	5,435.82	8.52	911.85	55.82
Tasmania.....	*85.10	*11.17	61.17	43.12	*1.15	*3.98
Windward Islands.....	529.80	32.68	22,259.00	87.52	3.40	14.59
Cape Colony.....	577.67	137.13	81.57	2.49	5.70	93.44
Hawaiian.....	459.38	17.06	*4,740.72	*13.55	1.65	4.42
Queensland.....	111.65	22.87	*1,550.65	*21.80	.65	9.35

* Decrease. Each amount not marked with an asterisk represents an increase.

Japanese exchange did not go into effect until October 1, 1885.

Leeward Islands exchange did not go into operation until January 1, 1886.

Norway exchange did not go into operation until April 1, 1887.

Netherlands exchange did not go into operation until April 1, 1887.

This table shows an increase in the number of international money-orders issued of 121,982, or 24.72 per cent.; and in the amount of such orders issued of \$1,356,744.10, or 25.86 per cent.; in the number of international orders paid and repaid of 13,306, equal to 6.29 per cent.; and of \$104,897.57, equivalent to 2.65 per cent. in the amount paid and repaid.

It likewise shows, notwithstanding the increase of business, a decrease of fees received amounting to the small sum of \$302.90, or less than three-tenths of 1 per cent., due to the reduction of the fee from $1\frac{1}{2}$ to 1 per cent. on the amounts, of orders made January 1, 1886, and consequently in force but half of the fiscal year 1886.

The average amount of the international orders issued was \$14.68, while that of the preceding year was \$14.55; and the average amount of the international orders paid was \$18.09 as compared with \$18.71, the average amount for the fiscal year ended June 30, 1886.

In the total volume of the international money-order business, including orders issued, paid, and repaid, there was an increase of \$1,961,641.67, or 17.63 per cent., and in number 135,288, or 19.19 per cent.

REVENUE FROM INTERNATIONAL MONEY-ORDER BUSINESS.

It appears from data furnished by the Auditor's Office that the revenues which accrued from the transaction of international money-order business during the year were as follows:

From the Canadian business	\$13,058.24
From the British business	15,743.98
From the German business	35,826.36
From the Swiss business	9,242.23
From the Italian business	20,581.23
From the French business	4,431.58
From the Jamaica business	467.96
From the New Zealand business	161.10
From the New South Wales business	211.44
From the Victoria business	145.92
From the Belgian business	414.39
From the Portuguese business	116.18
From the Tasmania business	5.32
From the Hawaiian business	311.31
From the Queensland business	33.13
From the Cape Colony business	24.46
From the Windward Islands business	359.87
From the Japanese business	121.69
From the Leeward Islands business	31.20
Total	101,287.59
Loss from Swedish business	\$402.76
Loss from Norwegian business	115.96
Loss from Netherlands business	25.24
	543.96
Total international revenue	100,743.63

GENERAL FINANCIAL RESULTS.

The total transactions in orders of all kinds and postal notes issued during the last fiscal year numbered 16,155,134, of the value of \$138,267,016.01, and in orders and notes paid and repaid, 15,721,353, amounting to \$133,040,050.11, while the gross amount of all the fees received by postmasters from the public was \$1,214,814.26.

The total volume of business, therefore, increased by 1,721,981 remittances by money-order and postal note, or 11.91 per cent., and the total amount by \$5,550,698.54, or 4.18 per cent.

The total revenues from all sources, as reported by the Auditor, were deposited quarterly, as shown below, with the assistant treasurer of the United States at New York to the credit of the Treasurer of the United States for the service of the Post-Office Department, as required by section 4050 of the Revised Statutes:

Quarter ended—	Amount.	Deposited—
September 30, 1886	\$152, 731. 21	January 26, 1887.
December 31, 1886	209, 113. 87	May 12, 1887.
March 31, 1887	179, 316. 05	July 27, 1887.
June 30, 1887	178, 174. 32	November 5, 1887.
Total	719, 335. 45	

During the year, however, the following expenses, properly chargeable to the money-order business, were paid from appropriations:

Salaries to 49 employes in the Superintendent's office	\$63, 280. 00
Salaries to the employes in the money-order division of the Auditor's office	232, 536. 56
Stationery furnished for use in the Superintendent's office	598. 02
Books, blanks, printing, and stationery furnished for use in the money-order division of the Auditor's office	10, 132. 55
One-half of salaries of employes in the money-order building, under the supervision of the superintendent of the Post-Office Department building	4, 940. 00
One-half rent of the money-order building	4, 000. 00
Estimated cost of furniture and miscellaneous expenses of same	2, 000. 00
Rent of building known as Marini's Hall	4, 500. 00
Salaries of watchmen, laborers, and of incidental and miscellaneous expenses of same	8, 100. 00
To these sums must be added the total amount of the allowances to postmasters at first and second class post-offices for clerk-hire in the money-order business which, under the act of June 29, 1856, have been paid since July 1, 1886, out of appropriations instead of from the proceeds of the money-order business, the said amount as reported by the First Assistant Postmaster-General being	410, 730. 00
Total	740, 873. 13

These legitimate expenses cause an apparent deficit on account of money-order business of \$21,537.68, which, however, should be reduced by the sum of \$13,446.43, excessive revenue from international money-order business for the year ended June 30, 1885, reported through mistake of the Auditor's office, as stated in my last annual report. While this amount for purposes of account must necessarily be deducted from the international revenue of the fiscal year 1887, and has been so deducted by the Auditor, it does not properly form a part of the transactions of that year, and the actual deficit of the last fiscal year was, therefore, but \$8,091.25. So that even with a reduced fee of 5 cents for money-orders not exceeding in amount \$5, the money-order system may be said to be substantially self-sustaining.

There can be little doubt that it will become entirely so during the current fiscal year if the conditions prevalent during the year just past do not materially change, because recently new contracts for printed matter (money-order books and blanks) and for engraved matter (postal notes and money-order drafts) have been executed, which cover a term of four years, and which as to prices are exceedingly advantageous to the Department.

The subjoined tabular statement shows that upon the basis of the estimated quantities to be required per year for the ensuing four years, the saving in the cost of the principal items only of books and blanks will amount to \$21,925.55 per annum.

Description of books or blanks.	Number of blanks or volumes re- quired per annum.	Contract price per 1,000, or volume, 1883-'87.	Contract price per 1,000, or volume, 1887-'91.	Saving.
Form 6001	10,000,000	\$0.55	\$0.42½	\$1,250.00
Form 6010	400,000	7.90	4.50	1,360.00
Form 6013	120,000	7.31	4.50	337.20
Form 6014	100,000	7.31	4.50	281.00
Form 6021	1,200,000	1.04	0.37½	798.00
Form 6701	1,100,000	0.72	0.47½	267.00
Orders issued, 3 quires:				
Domestic	2,000	1.33½	0.65	1,366.66
Combined	300	1.33½	0.73	181.00
Advices received, 3 quires:				
Domestic	900	1.33½	0.67	597.00
Combined	300	1.33½	0.73	181.00
Cash-books, 3 quires	3,000	0.90	0.61½	849.28
Certificates of deposit:				
General	650	1.25	0.63	403.00
For special offices	1,000	1.60	0.75	850.00
Domestic money-orders:				
500 forms	11,538	0.98	0.73	3,659.82
300 forms } Equivalent to 17,105 books of 500 forms {	4,131	.....	0.47	
200 forms } each. {	5,376	.....	0.33	
100 forms } {	4,689	.....	0.21	
International money-orders:				
500 forms	800	1.17	1.11	82.50
300 forms	75	0.88	0.90	
200 forms	100	0.60	0.63	
100 forms	300	0.50	0.39	
Postal notes:				
500 forms	8,623	1.58	1.10	6,371.65
300 forms } Equivalent to 14,100 books of 500 forms {	2,085	.....	0.70	
200 forms } each. {	6,432	.....	0.45	
100 forms } {	8,273	.....	0.25	
Money-order drafts:				
250 forms	24	23.82½	3.247	493.872
15 forms	2,049	1.474	0.197	2,616.573
Total saving				21,925.55

The contracts in question, awarded for the most part item by item to the lowest bidders, were executed with the following printing establishments, viz: Dunlap & Clarke, of Philadelphia, Pa.; The Avil Printing Company, of Philadelphia, Pa.; Weed, Parsons & Co., of Albany, N. Y.; Wynkoop, Hallenbeck & Co., of New York city, and Henry Goodman, of La Porte, Ind., while a portion of the work was awarded to the Public Printer, his estimate therefor being lower than any bid, in pursuance of the provisions of the second section of the act of March 3, 1883; and the contract for postal notes was awarded to the American Bank-Note Company, of New York, N. Y., the lowest bidder, while the money-order drafts are to be engraved at the Bureau of Engraving and Printing, the estimate of the chief thereof, under the same act, being lower than any bid.

I am, sir, very respectfully, your obedient servant,

C. F. MACDONALD,
Superintendent of Money-Order System.

Hon. WILLIAM F. VILAS,
Postmaster-General.

REPORT OF THE SUPERINTENDENT OF FOREIGN MAILS

POST-OFFICE DEPARTMENT,
OFFICE OF FOREIGN MAILS,
Washington, D. C., September 1, 1887.

SIR: I have the honor to submit the report of the office of Foreign Mails for the fiscal year ended June 30, 1887.

The Department, since my last annual report, has regularly received tenders for the conveyance of United States mails from all the steamship companies (both foreign and domestic) departing from the ports of the United States for foreign countries, and such as, from the records of this office, have shown the greatest speed, have been accepted to convey the mails to the ports of call and destination of the steamers, at the compensation, when American in build and register, the sea and inland postage (\$1.60 per pound for letters and post-cards, and 8 cents per pound for other articles); when of foreign build and register, the sea postage (44 cents per pound for letters and post-cards, and 4½ cents per pound for other articles).

The United States and Brazil Mail Steamship Company has continued to decline to receive the warrants in their favor (amount \$11,069.10) for services rendered in conveying the mails from the United States to Brazil during the last fiscal year, with a statement that the several amounts (the sea and inland postage) allowed by the Postmaster General were not adequate compensation for the service rendered.

I append the correspondence between the company and the Post-Office Department on that subject, marked Appendix A.

WEIGHT OF MAILS.

The following two tables show the actual net weights of the mails dispatched to foreign countries by sea and the proportion sent to each country, and the number of articles estimated to have been contained in the mails exchanged with foreign countries, as shown by an actual count of said articles made during two weeks of the year:

Weights of the mails dispatched by sea to foreign countries during the fiscal year ended June 30, 1887.

Countries.	Letters.	Prints.	Countries.	Letters.	Prints.
	<i>Grams.</i>	<i>Grams.</i>		<i>Grams.</i>	<i>Grams.</i>
Great Britain	103,386,435	466,825,303	Portugal.....	810,880	2,911,145
Austria	8,843,086	19,029,340	Russia	6,230,475	9,120,645
Belgium	2,659,233	14,696,055	Spain	1,961,525	11,728,300
Denmark	3,525,005	7,364,956	Sweden	12,916,835	37,582,554
France	15,426,171	72,213,786	Switzerland.....	4,457,900	20,844,622
Germany	52,268,235	193,316,816	Turkey	522,795	5,471,480
Italy	9,860,545	42,814,405			
Netherlands	2,717,025	9,767,540	Total	232,894,729	1,827,787,865
Norway	7,100,590	14,750,620			

* Or 513,533 pounds.

† Or 2,045,772 pounds.

Weights of the mails dispatched by sea to foreign countries, etc.—Continued.

Countries.	Letters.	Prints.	Countries.	Letters.	Prints.
	<i>Grams.</i>	<i>Grams.</i>		<i>Grams.</i>	<i>Grams.</i>
Cuba.....	3, 116, 051	28, 407, 063	San Domingo.....	163, 900	2, 340, 205
Australia, etc. (non-union).....	2, 702, 307	09, 377, 702	Nicaragua.....	244, 097	3, 290, 100
British Columbia.....	1, 302, 974	5, 622, 250	Costa Rica.....	295, 196	3, 524, 618
Hawaiian Islands.....	1, 774, 738	19, 902, 093	Salvador.....	209, 596	2, 630, 809
Japan.....	2, 081, 263	21, 196, 191	Porto Rico (direct).....	124, 980	615, 830
Windward Islands.....	1, 171, 653	10, 962, 370	Ecuador.....	254, 862	2, 273, 855
United States of Colombia.....	1, 468, 989	16, 852, 81	Uruguay.....	137, 015	3, 093, 900
Brazil.....	1, 076, 389	13, 555, 385	Paraguay.....	3, 465	90, 040
Hong-Kong.....	1, 267, 452	4, 630, 385	Curacao.....	250, 105	1, 157, 080
Bermuda.....	747, 215	6, 873, 480	Tahiti.....	78, 132	1, 323, 108
Jamaica.....	565, 295	5, 801, 365	St. Pierre and Miquelon.....	1, 770	10, 470
Argentine Republic.....	440, 470	9, 597, 935	Java.....	7, 168	92, 120
Chili.....	491, 931	12, 018, 814	Manilla.....	50, 728	480, 004
Guatemala.....	550, 303	6, 474, 708	Turk's Island.....	40, 350	272, 030
Mexico.....	540, 410	4, 710, 361	Siam.....	0, 703	137, 219
Peru.....	483, 683	9, 638, 006	Singapore.....	12, 031	99, 252
Haiti.....	847, 365	3, 647, 845	From United States consul at Shanghai.....	351, 885	453, 896
Bahamas.....	268, 623	2, 590, 308	New Caledonia.....	5, 896	105, 314
Republic of Honduras.....	285, 168	3, 374, 971	Bolivia.....	18, 885	857, 535
Newfoundland.....	27, 380	215, 960	Cochin China.....	4, 863	41, 722
United States consul, Shanghai.....	554, 428	6, 226, 383	Hong-Kong postal agency at Shanghai.....	1, 338	1, 151, 806
British Honduras.....	199, 806	1, 359, 208	Marquesas Islands.....	4, 045	91, 700
Nova Scotia.....	434, 573	8, 868, 290	Martinique and Guadeloupe.....	580	7, 020
Venezuela.....	655, 885				
St. Thomas and Porto Rico, via Cuba.....	159, 029	2, 506, 327	Total.....	*25, 031, 938	†301, 028, 214

* Or 55, 195 pounds.

† Or 664, 769 pounds.

The weights of the mails conveyed from the United States to foreign countries during the fiscal year ended June 30, 1887, shows an increase in the transatlantic mails of 10.59 per cent. of letters and 12.35 per cent. of other articles.

The mails for the Central and South American countries show the more gratifying increase of 19.21 per cent. of letters, and 20.49 per cent. of other articles. This increase comes mainly from the Central and the northern tier of South American states.

In some cases the mails have increased more than double, as in the case of Venezuela, where the increase was 236 per cent.; island of Curacao, 141 per cent. The Central American states show an average increase of 36 per cent.; Argentine Republic, 28.71; Ecuador, 26.06; Uruguay, 25.91; Brazil, 25.24; Peru, 17.20, and the Republic of Colombia, 43 per cent.

As the greater part of the correspondence exchanged in the mails with these countries is commercial in its character, the increase can be attributed alone to the increased business relations with them.

The increase of business relations is indicated in a measure by the increase in the correspondence of this office, the records showing that while during the year ended June 30, 1885, 10,641 communications were received and disposed of during the year ended June 30, 1886, 12,379 were acted on, and during the year just closed the number reached 15,455—an increase of nearly 5,000 in two years.

* * * * *

COST OF THE SERVICE.

The sums reported on account of the Shanghai and Panama postal agencies, the Panama Railway, and the sea transportation of the United States mails, including "open and closed mail matter" from foreign

countries, dispatched from the United States (and including also the inward service on mails from non-conventional countries), during the fiscal year ended June 30, 1887, amounted to \$425,818.53, distributed as follows :

For Shanghai agency	\$1,552.20
For Panama agency	840.00
For Panama Railway transit	6,018.74
For Transatlantic service	314,320.32
For Transpacific service	38,465.49
For West Indian, Mexican, Canadian, Newfoundland, and Central and South American service	51,416.44
	<hr/>
	412,673.19
The sums reported for payment on account of transportation of closed mails of foreign origin during the fiscal year ended June 30, 1887, was	24,773.66
	<hr/>
Total cost of service	437,447.05
From the above must be deducted the amount of mail matter conveyed by foreign steamship companies under subvention and settled for in account of balances due foreign countries	11,628.52
	<hr/>
	425,818.53

The following foreign postal agencies were maintained by the United States during the fiscal year ended June 30, 1887 : (1) Shanghai, China; (2) Panama, United States of Colombia.

(1) Shanghai :

Expenditure :

Clerk-hire	\$1,200.00
Messenger and other labor	355.00
Rent	200.00
Gas and fuel	29.75
Miscellaneous	53.45

Total 1,848.20

Income :

Box-rents	296.00
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Net cost of agency 1,552.20

N. B.—The accounts of postage-stamps furnished to the Shanghai agency and sold by it are kept in the Third Assistant Postmaster-General's office.

The British and Japanese Governments maintain postal agencies at Shanghai, which are Postal-Union offices, whilst the United States postal agency at Shanghai is virtually a domestic post-office of the United States, established and maintained for the benefit of people of the United States having correspondence with China, and of Americans residing in that country.

(2) Panama :

Expenditure :

Clerk-hire	\$600.00
Transportation of mails	180.00
Porterage of mails	60.00

Total 840.00

* * * * *

The present system of dispatching the transatlantic mails by the fastest steamers without regard to the flag under which they sail has given great satisfaction to the people of the United States ; and much complaint has been made by the commercial and financial interests of the country on account of the different policy pursued by some of the European governments in confining the dispatches of their mails for the United States to certain lines of steamers, without regard to the

speed of the vessels, so that it often happens that imported merchandise shipped by fast steamers arrives at the New York custom-house before the mails containing the letters of advice respecting the merchandise reach this country, which, in many instances, results in inconvenience to the consignees of the merchandise.

The Central and South American service is as good as can be obtained under the present system of dispatching mails by vessels "when loaded." Frequently vessels tendered to the Department to convey these mails on a certain day sail several days before or after the time appointed, to the annoyance and inconvenience of correspondents. I have to suggest, as one means of correcting this evil, that if the Postmaster-General were authorized by law to allow an additional compensation, over and above that now allowed to vessels engaged in this service (upon the basis of the weights of the mails conveyed), a system of premiums and penalties might be mutually agreed upon by this Department and steamship companies, which would make it to the advantage of the steamship companies to adhere closely to their scheduled sailing dates, whereby the efficiency of the service would be materially increased and the commercial interests of the country benefited.

The amount estimated as necessary to be appropriated for the foreign mail service for the fiscal year ending June 30, 1889, is \$647,000.

This sum is composed of the following items, viz: For the transportation of mails of United States origin, including open mail matter of foreign origin \$512,630.69; closed mails of foreign origin, \$25,000; railway transit across the Isthmus of Panama, \$6,000; maintenance of the United States postal agencies at Panama and Shanghai, \$2,392; contingencies, \$977.31; for balances due foreign countries for intermediary transit, the United States' portion of the expenses of the International Bureau of the Universal Postal Union, and the subscription of this Department to the Monthly Journal (*l'Union Postale*) of that Bureau, \$100,000.

There is no reason to suppose that there will be any material increase during the next fiscal year in the balances due foreign countries, the expense of the postal agencies at Panama and Shanghai, the cost of transporting mails of foreign origin, or in the Isthmus transit of the mails; and I have, therefore, estimated these items at the same amount at which they were estimated in my last report.

But I find that the cost of the sea conveyance of United States mails in 1886 and 1887 exceeded that for 1885 and 1886, as follows, viz:

The weight of the mails conveyed to ports to which American vessels do not ply was:

	Letters.	Prints.
	Pounds.	Pounds.
Fiscal year ended June 30—		
1886	464, 360	1, 930, 617
1885	449, 058	1, 700, 008
Increase	15, 302	139, 900
1887	513, 533	2, 045, 772
1886	464, 360	1, 930, 617
Increase	49, 173	114, 955
Percentage of increase—		
1885-'86	3.40	7.81
1886-'87	10.50	5.95
Average	13.99	13.76
	6.99	6.89

At this rate of increase—6.99 per cent. for letters and 6.88 for printed matter—the weights for the fiscal year ending June 30, 1888, will give:

Letters:		Pounds.
Fiscal year ended June 30, 1887		513,532
Add 6.99 per cent. increase		35,296
Weight in 1888		549,429
Add 6.99 per cent. increase		38,406
Weight in 1889		587,534
Prints:		
Fiscal year ended June 30, 1887		2,045,772
Add 6.88 per cent. increase		140,749
Weight in 1888		2,186,521
Add 6.88 per cent. increase		150,433
Weight in 1889		2,336,954

The cost of conveying the above amount of mail at 5 francs per kilogram of letters and post-cards (4½ cents per pound) and 50 centimes per kilogram for printed matter (4½ cents per pound) will make the total cost of this service:

For letters and post-cards	\$258,646.96
For printed matter	105,162.93
Total	363,809.89

The weight of the mails conveyed to ports to which American vessels ply was:

	Letters.	Prints.
	Pounds.	Pounds.
Fiscal year ended June 30—		
1886	50,299	489,618
1885	40,281	408,514
Increase	10,018	81,104
1886	50,299	489,618
1887	48,053	589,950
Decrease	2,246	
Increase		100,341
Percentage of increase 1885-'86	24.87	19.85
Percentage of decrease 1886-'87	4.67	
Percentage of increase 1886-'87		20.48
	20.20	40.33
Average percentage of increase	10.10	20.16

At this rate of increase, 10.10 for letters and 20.16 for prints, the weights for the fiscal year ending June 30, 1889, will give:

Letters:		Pounds.
Fiscal year ended June 30, 1887		48,053
Add 10.10 per cent. increase		4,853
Weight in 1888		52,906
Add 10.10 per cent. of increase		5,344
Weight in 1889		58,250

	Pounds.
Prints:	
Fiscal year ended June 30, 1887.....	489,618
Add 20.16 per cent. increase	88,802
Weight in 1888	578,420
Add 20.16 per cent. of increase.....	116,840
Weight in 1889.....	695,260
The cost of conveying the above amount of mail at the sea and inland postage (\$1.60 per pound of letters and post-cards and 8 cents per pound of printed matter) will be:	
For letters and post-cards	\$93,200.00
For printed matter.....	55,620.80
	148,820.80
Add the amounts, viz:	
For conveyance of mails to ports to which American vessels do not ply.....	363,809.89
For conveyance of mails to ports to which American vessels ply.....	148,820.80
Balances due foreign countries	100,000.00
Closed mails.....	25,000.00
Isthmus transit	6,000.00
Shanghai and Panama postal agencies.....	2,392.00
Contingencies.....	977.31
Total	647,000.00

Should the parcel post conventions alluded to in this report go into effect, they will materially increase the volume of the mails, and correspondingly increase the cost of their transportation. There is as yet no data upon which to intelligently estimate this cost, but it would probably not be unreasonable to place it at, at least, \$25,000.

MEXICAN POSTAL TREATY.

I annex hereto a copy of the postal convention between the United States and Mexico, signed and approved by the President on the 21st of June, and which went into effect on the 1st of July, 1887. (Appendix B.)

The question of a new postal treaty between the two countries has been under consideration by the Post-Office Department since 1883. A convention was concluded by your predecessor, and Señor Romero, the Mexican minister, and signed in the city of Washington on the 20th day of October, 1884, and was sent to Mexico for approval by the Senate and President of the Mexican Republic. This treaty was in every respect and effect the same as the Canadian postal treaty which has been in force since 1875, and provided only for the transmission through the mails of letters, post-cards, printed matter, and samples of merchandise. In November, 1886, Señor Romero, the Mexican minister, returned to this Department the convention made with your predecessor, accompanied by three amendments desired by his Government to the then pending treaty, the first two of which were of minor importance, the third containing the provisions relative to the reciprocal conveyance by land or sea of the closed mails of the one country by or through the possessions of the other, which was provided for by the postal convention of 1861 between the two countries and then in force.

The effect of the convention as it then stood was only to reduce the rates of postage on first and second class matter from the United States to Mexico, with no corresponding reduction from Mexico to the United States, and to the exclusion of our fourth class matter, by which all

merchandise would be excluded from the mails exchanged between the two countries.

The question of including fourth-class matter was of great importance, as it would remove many of the restrictions which existed in our commercial relations, and would tend to cement the bond of good-fellowship and the friendly and business relations between the United States and our "Sister Republic."

To correct these defects a new draft of a convention was prepared and presented to Señor Romero, the Mexican minister to this Government, which met with his hearty approval and cordial indorsement, and was ratified by both countries. When it went into effect, many mercantile houses, located in various cities of the Union, celebrated the event by sending by mail appropriate souvenirs of the occasion to prominent persons in various parts of the Mexican Republic. It is expected that a large retail trade between the United States and Mexico will quickly spring up as the result of the facilities offered for the unrestricted exchange by mail of small packages of merchandise. I quote from a letter recently received from a gentleman a citizen of Mexico:

The great advantage which the postal convention between the United States and Mexico will bring to this country (Mexico) has awakened in many people here a desire to carry on business transactions directly with the principal cities of the United States, and they intend to make trial of the system of purchase by retail of such goods as may come by mail.

We may confidently expect the total of the postal revenue to the Department from the mails for Mexico will be much larger than ever before, as the exchange of commercial packets of merchandise alone will cause the mails to be materially increased, to say nothing of the increase of correspondence which will naturally follow the reduction of the letter rate of postage from 5 cents per one-half ounce to 2 cents per ounce.

The new treaty, in effect, makes a unification of the postal systems of the two countries into one postal territory, as articles of every kind or nature which are admitted to the domestic mails of either country are admitted to the mails exchanged between the two countries at the domestic rates of postage and classification of the country of origin; provided the rates of postage do not exceed in either country the minimum rates of postage and registration fee prescribed by Articles 5 and 6 of the Universal Postal Union convention of Paris of June, 1878, as amended by the additional act of Lisbon of March 21, 1885, and as each administration retains to its own use the whole of the postages it collects, there will be no postage accounts between the two countries.

PARCEL POST.

The Post-Office Department has pending, and in a few months will, it is expected, complete, parcel-post conventions with several West India Islands and South and Central American states, for the purpose of despatching through the mails merchandise parcels of declared value, through which the Department will add a new avenue, and obtain new facilities, for increasing the trade relations with our South American neighbors.

The barriers which at present exist and prevent to a great extent the purchase of small articles of merchandise in the markets of the United States are the consular and custom-house brokers' fees, which in some cases are several times greater than the original cost of the article purchased.

The present system requires every shipment of merchandise exported from the United States to some of the South and Central American

states to be accompanied by an invoice in quadruplicate, giving a detailed description of the goods, weight, quality, place of manufacture, place of shipment, etc., all of which has to be certified by a consul representing the country of destination, who receives a fee of from \$4 to \$5, whether the invoice represents one pair of gloves or a cargo of gloves; and each consignee has to apply in writing for the delivery of his goods, and in some countries in such great detail as to require expert brokers to pass the goods through the custom-house; but under the parcel-post system all such fees will be removed, leaving none of the costly machinery of certified invoices, consular certificates, and other charges, which make the trade in parcel merchandise virtually prohibitory. The only charge in the country of origin will be for postage, at the rate of 12 cents per pound; and in the country of destination 1 cent for each 4 ounces, and such import duties as are required by the laws and regulations of that country; so that a person in a country with which such relations have been entered into may, by letter, order and have sent by mail to their address from the markets of the United States any article of merchandise without regard to value, not exceeding the limitations as to size or weight; provided the packages, when shipped, are so wrapped or enclosed as to permit of their contents being easily examined by postmasters and customs officers. On arrival of the packages in the country of destination, customs officials rate up the import duty thereon, which is paid by the addressees on the delivery of the package; but neither of the contracting countries are responsible for the loss or damage of any package, and no indemnity can be claimed by either the sender or addressee. But articles admitted to the mails under these conventions are to be so carefully packed, listed, and checked that there can be but little risk of loss or damage.

The parcel-post system will be an important avenue for the extension of the commerce of the United States, and its use will be the cause of bringing to our merchants an acquaintance hitherto unknown to them, and by that acquaintance larger transactions will follow; and further, the kind of merchandise that will be purchased and conveyed in this way from our markets to the states of Central and South America is now largely purchased from European states, as will appear from the following tables compiled from the Report of the Chief of the Bureau of Statistics, Treasury Department, for the quarter ended September 30, 1886, showing the value of cotton and of woolen goods exported to the Spanish West Indies, Mexico, Central America, and the principal states of South America, from the United States, Great Britain, France, and Spain, during the calendar year 1885, and from Germany during the calendar year 1884:

To—	From the United States.	From Great Britain.	From France.	From Germany.	From Spain.
MANUFACTURES OF COTTON.					
Spanish West Indies	\$351, 856	\$2, 670, 180	\$37, 750	\$30, 452	\$1, 027, 123
Mexico	998, 920	1, 982, 890	274, 090	155, 176	.....
Central American states	287, 514	7, 276, 140	152	.....	.....
United States of Colombia	339, 820	1, 378, 057	206, 466	.....	4, 820
Venezuela	370, 998	322, 571	40, 949	.....	9, 395
Brazil	604, 891	12, 013, 877	389, 571	753, 032	.....
Uruguay	77, 068	1, 824, 063	116, 095	.....	23, 547
Argentine Republic	494, 486	4, 806, 456	602, 351	528, 360	38, 129
Chili	397, 827	2, 243, 719	140, 160	485, 044	.....
Peru	78, 200	1, 336, 823	77, 837	194, 084	.....
Total.....	3, 907, 289	31, 554, 776	1, 891, 401	2, 176, 748	1, 101, 020

To—	From the United States.	From Great Britain.	From France.	From Germany.	From Spain.
MANUFACTURES OF WOOL.					
Spanish West Indies	3,255	151,918		5,236	61,241
Mexico	27,749	467,836		73,066	
Central American states	11,203	144,496			
United States of Colombia	29,244	187,268	51,455		
Venezuela	3,577	103,486			
Brazil	1,029	1,468,262		250,614	
Uruguay	4,754	928,199			
Argentine Republic	3,335	2,865,765	197,259	247,996	23,339
Chili	1,696	963,601	99,736	214,676	
Peru	447	737,353	32,727	81,634	
Total	86,280	8,013,184	351,177	673,222	89,794

PARCEL-POST POSTAGE CHARGES.

The question of parcel-post charges for postage is one of important concern. The competition for the conveyance of the domestic merchandise parcels comes from our own citizens, and does not enter into the question, to any very great extent, of the trade relation between different sections of the country. But the competition of our foreign parcel trade will come from nearly all of the European states, as most of them have an established parcel-post system with some of the South American states; in some cases we have an advantage in the time required for the completion of a merchandise order through the parcel post, while they have the advantage in many cases of a cheaper cost price for the articles of merchandise transported by their parcel-post system to the same destinations.

The Postal Union parcel rates from Germany, France, and other European states which belong to the International Parcel Post to some of the South American states are as follows, viz:

From France and Germany, 3 francs (about 60 cents) for parcels of 5 kilograms (11 pounds), conveyed to destination by direct sea service, and an optional charge of 25 centimes (5 cents) in the country of destination.

Special parcel-post rates between Great Britain and her West Indian colonies, for each pound or fraction of a pound, are as follows, viz:

To and from Great Britain and Barbados, 16 cents; composed as follows, viz, to Great Britain, for cost of inland transit, 7 cents; to Barbados, for local expenses, 5 cents; for sea conveyance, 4 cents; and to and from Jamaica 18 cents, composed as follows, viz, to Great Britain for sea conveyance, 11 cents; to Jamaica, 7 cents.

In all the parcel-post arrangements, both in the International Parcel Post, and in all special arrangements between the different countries, the country of destination participates in the postage collected, for the care and delivery of the parcels.

DETAILS OF THE PARCEL-POST SERVICE IN THE PRINCIPAL COUNTRIES OF THE POSTAL UNION.

In view of the proposed establishment of a parcel-post system between the United States and a number of countries of the Postal Union, it may be of interest to give more fully the statistics of this service, both domestic and international, in some of the principal countries of the Postal Union.

1. DOMESTIC PARCEL POST.

(a) GERMANY.

Rates.—For parcels not exceeding 5 kilograms (11 pounds) in weight, for distances not exceeding 10 geographical miles, 6 cents; for all distances exceeding 10 geographical miles, 12 cents; for parcels exceeding 5 kilograms in weight, for the first 5 kilograms in weight, the same rates as above; for every additional kilogram or fraction of a kilogram, up to 10 miles, $1\frac{1}{2}$ cents; to 20 miles, $2\frac{1}{2}$ cents; to 50 miles, 5 cents; to 100 miles, $7\frac{1}{2}$ cents; to 150 miles, 10 cents; and beyond 150 miles, 12 cents.

The average weight of ordinary parcels sent in the domestic mails is 9 pounds per parcel, and of parcels with declared value 7 pounds.

The total number of parcels sent in 1885 was 69,602,700 parcels, yielding postage (of which 1,311,400 with declared value), an increase of almost 3,000,000 over the preceding year, yielding a postage of \$7,769,272.24.

(b) GREAT BRITAIN.

Rates.—For a parcel not exceeding 1 pound in weight, 6 cents; up to 2 pounds, 9 cents; to 4 pounds, 15 cents; 5 pounds, 18 cents; 6 pounds, 21 cents; 7 pounds, 24 cents; 8 pounds, 27 cents; 9 pounds, 30 cents; 10 pounds, 33 cents; and 11 pounds, 36 cents.

In 1885 the number of parcels carried in domestic mails was 26,417,422, an increase of about three and one-half millions over the preceding year.

The following table shows the postage on these parcels in 1884 and 1885:

Year.	Postage			Average postage per parcel.	
	Gross amount.	Fifty-five per cent. on railway-borne parcels, paid to railway companies.	Post-Office share.	Gross.	Post-Office share.
				<i>Cents.</i>	<i>Cents.</i>
1885	\$2,690,370.39	\$1,454,661.30	\$1,425,708.80	10.7	5.2
1884	2,472,268.62	1,247,919.76	1,224,348.85	10.6	5.2
Increase	408,101.68	206,741.54	201,359.95	0.1	0.1

(c) FRANCE.

The Domestic Parcel Post Service is performed by companies acting in the name and under the control of the Department of Posts and Telegraphs.

Rates.—For parcels weighing $6\frac{1}{2}$ pounds, the maximum weight, 12 cents if called for at the post-office, and 17 cents if delivered at the residence.

Number of parcels carried in the domestic mails in 1884, 13,360,581.

(d) NUMBER OF PARCELS CARRIED IN THE DOMESTIC MAILS IN SOME OF THE PRINCIPAL COUNTRIES OF THE POSTAL UNION IN 1885.

Austria	8,537,600
Hungary	3,487,390
Netherlands	2,579,492
Denmark	1,427,177
British India	1,175,066
Russia	940,756
Canada (1884)	541,000
Sweden	301,619
Norway	57,425
Luxemburg	63,598
Egypt	46,511
Persia (1884)	31,300
Portugal	19,866

2.—INTERNATIONAL PARCEL POST.

Rates between the countries which signed the International Parcel Post Convention of Paris of 1880 : For each parcel not exceeding 11 pounds, according to distance and mode of conveyance (land or sea), 10 cents for each office taking part in the land conveyance, and if there be sea conveyance, 5 cents for every distance not exceeding 500 nautical miles; 10 cents up to 1,000 nautical miles; 20 cents up to 3,000 nautical miles; 40 cents up to 6,000 nautical miles; and 60 cents for every distance exceeding 6,000 nautical miles.

The following countries now belong to the International Parcel Post Union : Argentine Republic, Austria, Belgium, Brazil, Bulgaria, Chili, Denmark, Egypt, France, French colonies, Germany, Greece, Hungary, Italy, Luxemburg, Montenegro, Netherlands, Norway, Paraguay, Portugal, Portuguese colonies, Roumania, Servia, Spain, Sweden, Switzerland, Turkey, Uruguay, and Venezuela.

An idea of the extent of the International Parcel Post Service during the year 1885 may be obtained from the following table :

Countries.	Parcels sent.		Parcels received.	
	Number.	Value.	Number.	Value.
Germany	4,053,260	\$40,457,986	2,381,070	\$52,569,063
Austria	1,108,200	36,726,352	3,535,600	60,713,902
Switzerland	778,044	.....	1,173,060	.....
Italy	173,912	.....	441,262	.....
Denmark	77,528	1,343,893	330,641	4,142,353
Netherlands	50,113	.....	110,084	.....
Russia	50,480	7,358,764	120,696	3,823,964
Luxemburg	48,187	580,608	85,185	907,270
Hungary	46,620	7,516,693	56,736	5,063,161
Sweden	18,829	4,079,526	85,818	1,847,323
Egypt	11,787	.....	25,131	.....
Roumania	10,273	1,867,389	76,715	2,048,581
Norway	7,646	2,326,903	34,364	2,441,156
Portugal	1,475	.....	15,169	.....

Great Britain does not belong to the International Parcel Post Union, but has special Parcel Post Conventions with Germany, Belgium, the Netherlands, Italy, and nearly all the British colonies. None of these conventions had been in operation for an entire year, at the date (March 30, 1886) when the statistics given in the last British Post-Office Report (1886) were closed.

The total number of foreign and colonial parcels dispatched and received from the establishment of each Foreign and Colonial Parcel Post up to March 30, 1886, was, dispatched 72,126, and received 40,865.

The following table shows the number of parcels sent and received from the establishment of each parcel post up to March 30, 1886, giving only those countries to which more than 1,000 were sent:

Countries.	Number of parcels.		Length of time from establishment of service up to March 30, 1886.	Limit of weight.	Rate per maximum weight.
	Sent.	Received.			
			<i>Months.</i>	<i>Pounds.</i>	<i>Cents.</i>
India	34,141	21,006	9	11	24
Germany	9,534	10,379	3	7	38
Egypt	7,875	2,290	9	11	30
Malta	3,464	1,427	8	11	16
Gibraltar	3,378	1,277	9	11	16
Cape Colony	3,293	887	4	11	24
Belgium	2,086	1,167	3	11	29
Hong-Kong	1,561	735	6	11	20
Jamaica	1,553	598	6	11	18
Ceylon	1,260	406	4	11	18
Straits Settlements	1,042	256	6	11	18

THE UNIVERSAL POSTAL UNION DURING 1887.

During the fiscal year ended June 30, 1887, there have been no additions to the Universal Postal Union.

The Universal Postal Union convention of June 1, 1878, as amended by the additional act of Lisbon of March 21, 1885, has had but few new provisions added to it since the adoption of that act.

The only new provisions of general interest are the following:

An addition to paragraph 3 of Article XVIII of the Regulations provides that samples of merchandise may also bear "those indications which are necessary to precisely indicate the origin and nature of the merchandise."

A new paragraph has been added to Article XXI of the Regulations, providing that "before returning to the office of origin correspondence, which, for some reason or other, has not been delivered, the office of destination must indicate, in a clear and concise manner, in the French language, on the back of the articles, the cause of non-delivery, in the following terms: Unknown, refused, left, not claimed, deceased, etc. This indication is given, as far as possible, by impressing a stamp, or by affixing a label. Each office is at liberty to add a translation, in its own language, of the cause of non-delivery, and any other indication which it deems proper."

The following administrations have agreed to an exchange of samples of liquids in the mails, if securely packed: Argentine Republic, Austria, Belgium, Bolivia, Bulgaria, Cameroon (German protectorate), Chili, Congo (Independent State of), Denmark, Egypt, France, French colonies, Germany, Greece, Hawaii, Hungary, India (British), Italy, Japan, Luxemburg, Netherlands, Netherlands colonies, Norway, Hayti, Peru, Portugal, Roumania, Salvador, Servia, Siam, Spain, Sweden, Switzerland, and Turkey.

* * * * *

NICHOLAS M. BELL,
Superintendent Foreign Mails.

REPORT OF THE AUDITOR OF THE TREASURY FOR THE POST-OFFICE DEPARTMENT.

OFFICE OF THE AUDITOR OF THE TREASURY
FOR THE POST-OFFICE DEPARTMENT,
Washington, D. C., November 12, 1887.

SIR: I have the honor to submit herewith the annual report of receipts and expenditures of the Post-Office Department, as shown by the accounts of this office for the fiscal year ended June 30, 1887. All expenditures on account of service of last and prior fiscal years are stated to September 30 of current year, as in former reports.

REVENUE ACCOUNT OF THE POST-OFFICE DEPARTMENT.

Service of the fiscal year 1887.

Postal revenues of the year ended June 30, 1887.....	\$48,837,609.39
Expended to September 30, 1887.....	52,391,677.43
Excess of expenditures over all revenues.....	3,554,068.04
Amount placed with the Treasurer to the credit of the Department, being grants from the General Treasury in aid of the postal revenues under section 2 of the act approved June 30, 1886. (Statutes, vol. 24, page 92).....	4,279,336.98
Amount of balances due late postmasters on accounts closed by "suspense".....	\$24,557.02
Amount of balances due from late postmasters charged to "bad debt" and "compromise" accounts.....	990.22
Net gain by "suspense".....	23,566.80
Excess of receipts over all expenditures.....	743,825.74

Service of the fiscal year 1886.

Amount placed with the Treasurer to the credit of the Department, being grants from the General Treasury in aid of the postal revenues under section 2 of the act approved March 3, 1885. (Statutes, vol. 23, page 387).....	466,304.67
Expended from October 1, 1886, to September 30, 1887.....	211,881.50

Service of the fiscal year 1885.

Expended from October 1, 1886, to September 30, 1887.....	26,811.99
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Service of the fiscal year 1884 and prior years (claims).

Expended from October 1, 1883, to September 30, 1887 (claims), compensation of postmasters readjusted and allowed under act March 3, 1883.....	375,823.47
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GENERAL REVENUE ACCOUNT.

Postal revenues for the year ended June 30, 1887.....	\$48,837,609.39
Expenditures for the service of 1887.....	52,391,677.43
Expenditures for the service of 1886.....	211,881.50
Expenditures for the service of 1885.....	26,811.99
Expenditures for the service of 1884, and prior years, for salaries of postmasters readjusted under act of March 3, 1883.....	375,823.47
Total expenditures to September 30, 1887.....	53,006,194.39
Excess of expenditures over revenues.....	4,168,585.00

Amount due late postmasters on accounts closed by suspense.....	\$24,557.02	
Amount of balances due from late postmasters and charged to bad debt and compromise accounts ...	990.22	
Net gain by suspense.....		\$23,566.80
Excess of expenditures.....		4,145,018.20
Grants from the General Treasury:		
Under act of June 30, 1886, for 1887.....	\$4,279,356.98	
Under act of March 3, 1885, for 1886.....	460,304.67	
Additional amount placed in the Treasury on account of 1878:		
Under an act approved February 23, 1887 (private No. 162), for the relief of Francis M. Bell, postmaster, Tyrone, Pa., (Statutes, vol. 24, chapter 241, page 917).....	525.41	
Total grants.....		4,746,167.06
Excess of grants over expenditures.....		601,148.86
The balance standing to the credit of the general revenue account September 30, 1886.....		3,477,007.96
The balance standing to the credit of the general revenue account September 30, 1887.....		4,078,156.82

POSTMASTERS' QUARTERLY ACCOUNTS CURRENT.

The net revenues of the Department from postages, being aggregate revenues at post-offices for the fiscal year, less the compensation of postmasters and clerks, and the contingent office expenses, were:

For the quarter ended September 30, 1886.....	\$6,557,194.10
For the quarter ended December 31, 1886.....	7,821,076.34
For the quarter ended March 31, 1887.....	8,196,357.07
For the quarter ended June 30, 1887.....	7,368,448.98

Total.....	29,943,076.49
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The number of quarterly returns of postmasters received and audited, on which the above sum was found due the United States, was—

For the quarter ended September 30, 1886.....	53,913
For the quarter ended December 31, 1886.....	54,451
For the quarter ended March 31, 1887.....	55,096
For the quarter ended June 30, 1887.....	55,228

Total.....	218,688
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STAMPS SOLD.

The amount of stamps, stamped envelopes, newspaper wrappers, and letter-sheets, and postal cards sold, was:

For the quarter ended September 30, 1886.....	\$10,328,491.33
For the quarter ended December 31, 1886.....	11,682,225.36
For the quarter ended March 31, 1887.....	12,275,723.16
For the quarter ended June 30, 1887.....	11,384,543.99

Total.....	45,670,983.84
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LETTER POSTAGES.

The amount of postage paid in money was.....	\$33.77
Included in the above amount are the following sums paid by foreign countries in the adjustment of their accounts :	
Kingdom of Great Britain and Ireland.....	\$29,490.20
Kingdom of Spain	3,629.44
Kingdom of the Netherlands.....	28.44
Kingdom of Italy.....	1,981.16
Empire of Germany.....	.50
Empire of Japan.....	4,304.71
Empire of Turkey.....	9.58
Dominion of Canada.....	26,798.50
United States of Colombia.....	1,600.00
Republic of Honduras.....	481.71
Republic of Chili.....	3,673.08
Republic of Peru.....	1,483.91
Republic of Uruguay.....	61.88
Republic of Hayti.....	35.62
Republic of Ecuador.....	237.73
Republic of Venezuela.....	692.49
Swiss Republic.....	158.47
Postal administration of New South Wales.....	898.76
Postal administration of Bahamas.....	193.53
Postal administration of Nicaragua.....	2.06
Postal administration of St. Lucia.....	5.49
Postal administration of Hawaii.....	2,029.90
Postal administration of Victoria.....	443.81
Postal administration of New Zealand.....	3,828.45
Postal administration Curaçoa.....	542.31
Postal administration of Hong-Kong.....	315.22
Postal administration of Turk's Island.....	2.68
Postal administration of Jamaica.....	234.55
Postal administration of Costa Rica.....	244.65
Postal administration of Queensland.....	212.33
Postal administration of St. Vincent.....	2.21
Postal administration of Grenada.....	.38
Postal administration of Straits Settlement.....	3.61
	<hr/> 93,6

Balance collected by postmasters 1

The following balances were paid and charged to the appropriate
for balances due foreign countries :

Service of 1887 :

Kingdom of Great Britain.....	\$15,016.51
Kingdom of Belgium.....	13,513.25
Kingdom of Denmark.....	6,293.40
Kingdom of Norway.....	464.97
Empire of Germany.....	9,147.40
Republic of Uruguay.....	757.98
Republic of Franco.....	5,844.52
Swiss Republic.....	13.73
International Bureau, Berne, Switzerland.....	670.53
Kingdom of Sweden.....	1,592.90
Bulgaria.....	108.41
Roumania.....	324.44
Trinidad.....	11.75
Barbadoes.....	242.88
St. Thomas.....	216.43
Dominion of Canada.....	67.76

Total for 1887..... \$54,2

Service of previous years :

Empire of Germany.....	\$3,002.40
Empire of Austria.....	122.83
Empire of Brazil.....	1,456.64
Kingdom of Belgium.....	4,466.79

Kingdom of Norway	\$153. 70
Kingdom of Sweden	530. 97
Kingdom of Denmark	2, 078. 30
Dominion of Canada	22. 28
British Guiana	6. 32
Barbadoes	37. 06
St. Kitts	9. 91
Bermudas	638. 90
Roumania	107. 24
Newfoundland	913. 70
Total previous years	\$13, 547. 02
Aggregate amount paid	67, 833. 88

MAIL TRANSPORTATION.

The amount charged to "transportation accrued" and placed to the credit of mail contractors and others for mail transportation during the fiscal year was:

For the regular supply of mail routes	\$23, 881, 075. 79
For the supply of special offices	46, 059. 97
For the supply of mail-messenger offices	830, 042. 01
For the salaries of railway postal clerks	4, 830, 413. 07
For the salaries and expenses of the superintendents of the railway mail service	48, 344. 24
Total	29, 636, 535. 07

FOREIGN-MAIL TRANSPORTATION.

New York, Great Britain, and Ireland, and countries beyond, via Great Britain	\$158, 228. 10
New York, Great Britain, and Germany, and countries beyond	142, 075. 14
Philadelphia, Great Britain, and Ireland	165. 33
Boston, Great Britain, and Ireland	1, 115. 84
Post-office department of Canada; English mail	167. 34
New York, Baltimore, Philadelphia, Boston, Key West, New Orleans, and San Francisco, West Indies, Central and South America, Mexico, etc	55, 419. 00
New York and Newfoundland	6. 98
Boston and Nova Scotia	376. 48
Portland and New Brunswick	64. 02
Upper Pacific coast; local mail	1, 817. 10
San Francisco, China, Japan, Farther India, Australia, and South Sea Islands	38, 281. 11
Expenses of Government mail-agent at Panama	840. 00
Expenses of Government mail-agent at Shanghai	2, 645. 00
Total foreign mail	402, 201. 49
Total "transportation accrued"	30, 038, 730. 56

The amount credited to "transportation accrued" and charged to mail contractors for over credits, being for fines and deductions, was

The amount of fines and deductions remitted was

Net amount of fines and deductions	\$216, 882. 74
Net amount of "transportation accrued"	29, 821, 853. 82
The amount paid during the year was	28, 135, 767. 81

Excess of "transportation accrued"

381—Ab 87—58

PACIFIC RAILROAD SERVICE.

Included in the above amount of "transportation accrued" are the following balances for the transportation of the mails over Pacific railroads, which have been certified to the Register of the Treasury. The amount is not charged to the appropriation for "inland transportation railroads," and is not, therefore, included in the total of transportation paid:

Regular service, 1887:	
Union Pacific Railway Company (old U. P. R. R. line), aided	\$422,338.09
Union Pacific Railway Company (old Kans. Pac. line), aided portion	70,064.83
Lines operated, leased, or controlled by Union Pacific Railway Company, non-aided	307,923.91
Central Pacific Railroad Company, aided portion	275,084.39
Sioux City and Pacific Railroad Company, aided portion	12,446.90
Lines operated, leased, or controlled by Sioux City and Pacific Railroad Company, non-aided	906.59
	<u>\$1,088,764.71</u>
Use of postal cars, 1887:	
Union Pacific Railway Company (old U. P. R. R. line), aided	58,922.39
Lines operated, leased, or controlled by Union Pacific Railway Company, non-aided	44.54
Central Pacific Railroad Company, aided	37,407.72
Sioux City and Pacific Railroad Company, aided	1,728.64
Lines operated, leased, or controlled by Sioux City and Pacific Railroad Company, non-aided	159.33
	<u>98,262.62</u>
Regular service previous years:	
Union Pacific Railway Company (old U. P. R. R. line), aided	480.77
Lines leased, operated, or controlled by Union Pacific Railway Company, non-aided	455.13
	<u>935.90</u>
Total Pacific railroads, services not paid	<u>1,187,963.23</u>

STATEMENT OF PAYMENTS TO AND COLLECTIONS FROM LATE POSTMASTERS.

Amount collected during the year from late postmasters ..	\$148,892.66	
Amount charged to suspense	1,272.82	
Amount charged to bad and compromise debts	4,859.09	
	<u>\$155,024.57</u>	
Amount paid during the year to late postmasters	326,950.68	
Amount credited to suspense	25,829.84	
Amount credited to bad and compromise debts	3,868.87	
	<u>356,649.39</u>	
Amount remaining due postmasters becoming late during the fiscal year ended June 30, 1887		90,000.55

STATEMENT OF POSTAL ACCOUNTS OF LATE POSTMASTERS IN SUIT ON JUNE 30, 1887.

Amount of postal accounts of late postmasters in suit on June 30, 1886	\$220,774.09	
Amount of postal accounts of late postmasters submitted for suit during the fiscal year ended June 30, 1887	22,895.77	
	<u>\$243,669.86</u>	
Amount of postal accounts of late postmasters collected during the fiscal year ended June 30, 1887	\$3,552.85	
Amount of postal accounts of late postmasters otherwise settled during the fiscal year ended June 30, 1887	1,414.13	
	<u>\$4,966.98</u>	
Balance of postal accounts of late postmasters remaining in suit on June 30, 1887		238,702.88
Amount of interest and costs collected in suits against late postmasters and sureties on postal accounts during the fiscal year ended June 30, 1887		<u>1,114.71</u>

The tables accompanying this report, numbered as follows, show in detail the transactions of the fiscal year :

No. 1.—Statement exhibiting quarterly the receipts of the Post-Office Department under their several heads for the fiscal year ended June 30, 1887.

No. 2.—Statement exhibiting quarterly the expenditures of the Post-Office Department under their several heads for the fiscal year ended June 30, 1887.

No. 3.—Statement by States of the postal receipts and expenditures of the United States for the fiscal year ended June 30, 1887.

No. 4.—Statement showing the condition of the account with each item of the appropriation for the service of the Post-Office Department for the fiscal year ended June 30, 1887.

No. 5.—Statement in detail of miscellaneous payments made by the Post-Office Department during the fiscal year ended June 30, 1887, and charged to "miscellaneous items, office of the Postmaster-General."

No. 6.—Statement in detail of miscellaneous payments made by the Post-Office Department during the fiscal year ended June 30, 1887, and charged to "miscellaneous expenses, office of the First Assistant Postmaster-General."

No. 7.—Statement in detail of miscellaneous payments made by the Post-Office Department during the fiscal year ended June 30, 1887, and charged to "miscellaneous items, Second Assistant Postmaster-General."

No. 8.—Statement in detail of miscellaneous payments made by the Post-Office Department during the fiscal year ended June 30, 1887, and charged to "miscellaneous items, office of the Third Assistant Postmaster-General."

No. 9.—Comparative statement of the receipts and expenditures of the Post-Office Department from July 1, 1836, to June 30, 1887.

No. 10.—Gross receipts, expenses, and net revenue of Presidential post-offices for the fiscal year ended June 30, 1887.

No. 11.—Statement showing the transactions of the money-order offices of the United States for the fiscal year ended June 30, 1887.

No. 12.—Statement showing the number and amount of international money-orders issued, paid, and repaid and fees collected during the fiscal year ended June 30, 1887.

No. 13.—Statement showing the receipts and disbursements of the money-order offices of the United States during the fiscal year ended June 30, 1887.

No. 14.—Statement showing the transfers to and from the money-order account during the fiscal year ended June 30, 1887.

No. 15.—Statement showing the money-order transactions with the Assistant United States Treasurer at New York, N. Y., during the fiscal year ended June 30, 1887.

No. 16.—Statement showing the revenue which accrued on money-order and postal note transactions for the fiscal year ended June 30, 1887.

No. 17.—Recapitulation of net revenue for the fiscal year ended June 30, 1887.

No. 18.—Statement of assets and liabilities June 30, 1887.

No. 19.—Statement showing the principal international money-order transactions during the fiscal year ended June 30, 1887.

No. 20.—Weight of letters, newspapers, etc., sent by sea from the United States to European countries during the fiscal year ended June 30, 1887.

No. 21.—Weight of letters, newspapers, etc., sent by sea from the United States to countries and colonies other than European of the Universal Postal Union during the fiscal year ended June 30, 1887.

No. 22.—Weights of retransported foreign closed mails and cost of carriage of same by steamship companies.

Very respectfully,

D. McCONVILLE,
Auditor.

HON. WILLIAM F. VILAS,
Postmaster-General.

REPORT
OF
THE COMMISSIONER OF AGRICULTURE.

DEPARTMENT OF AGRICULTURE,
COMMISSIONER'S OFFICE,
Washington, D. C., November 15, 1887.

To the PRESIDENT:

I respectfully submit my third annual report as Commissioner of Agriculture.

The year has been crowned with plenty, though in a large and fertile district, in the heart of the summer, the heavens were brass and the earth ashes. Even fervid suns and cloudless skies have failed to convert the fat areas of alluvium into a desert. When a field of maize, with only a sprinkling of water from planting, is able to mature forty bushels to the acre, nothing but careless cultivation can destroy the crop. It is a truth, which observation affirms and reiterates, that natural disabilities, however heavy, are less injurious than bad cultivation, and can be measurably obviated by the intelligence, alertness, and skill of the good farmer. It is the crop of the poor cultivator that is burned with drought, eaten by insects, or caught by the frost; if the skilled husbandman suffers a partial loss, his large remainder sold at appreciated prices nets a fair return.

The last seven years have been, with one exception, seasons of less than medium yields of corn, the great American tillage crop, and yet there has been no famine; exportation to Europe has been only limited by enhancement of price; and the home consumption of this one crop has averaged nearly twice as many bushels per capita as the European consumption of all the cereals in the same time. The great American desert of thirty years ago continues, as for several consecutive seasons, to pour its wealth of production into the nation's granary of maize, and stands in rate of yield among the most favored districts of the land.

The food question which most agitates the farmers of other countries is American competition in the wheat markets of the world. In the western nations of Europe such competition has been serious, reducing

rents, consuming the tenants' surplus, and deepening the agricultural gloom and depression. Still it continues. One-third of the wheat crop of last year was exported. More than half of the wheat and flour imports into Great Britain are still from this country; and last year the proportion from America was increased, while that from India was diminished. Whether profitable or not, the exportation still continues, and is likely to continue while virgin areas of wheat lands are annually broken as emigration extends westward. The comparative prominence of this country in its wheat surplus may not be popularly realized. Where our exports have exceeded 136,000,000 bushels per annum for ten years, those of Russia were about 66,000,000 bushels and those of India 24,000,000 bushels, in round numbers, for the last decade. Other lands contribute only a very small surplus—Australia, Chili, the Argentine Republic, and others only a few millions each—and the combined surplus of all nations does not equal that of this country.

It is an important question, in view of the rapid increase of available rural labor, tending to overproduction of the fruits of the soil and the cheapening of their values, what can be done to give greater variety to the products of agriculture? What can this Department do towards the introduction of new plants and the development of new rural industries? The sugar problem is one of the largest, but there may be a thousand minor products of cultivation, fruits, fibers, medicinal plants, dyes, and many others which together may make an aggregate surpassing that of the largest single product.

In the established industry of meat production, which is as old as agriculture, there is ample opportunity for economy and for success snatched from narrower margins of profit. The wastes of the past have been enormous. Neglect of improvement in blood, irregular feeding, exposure with semi-starvation, and waste of rough material in the fields, have increased the cost of meat and reduced its quality and intrinsic value. The successful feeder realizes the necessity of continuous and liberal feeding, and understands well the loss in flesh and its reduction in quality in alternate stuffing and starving. There are multitudes, however, who do not understand, or who fail to heed it. As the cost of corn and other material increases, the margin for profit is liable to be narrowed, rendering necessary the practice of all possible economies and the use of all available material in meat-making. It should be understood, however, that meat here, as elsewhere, now, as ever, promises to pay the farmer better than grain. The tendency has been to comparative advantage in price. The grass lands in times of agricultural depression yield the better profit. Their proportion is increasing to-day in Great Britain, where agricultural lands are dearest from this cause.

There is a branch of meat-making that has been neglected in this country. Sheep husbandry has been followed for the production of wool rather than for mutton. The latter production has been so neg-

lected as to render scarce meat of superior quality, tending to prevent the desirable increase of mutton consumption. In many sections it is unpopular because the popular taste has had no opportunity to appreciate fine quality. There is a wide field for improvement in quality and cost of this healthful and nutritious flesh, and the additional product of the fleece should render mutton sheep profitable, however wool may fluctuate in value.

To the solution of these and many other problems of husbandry the effort of the Department is persistently and zealously directed.

The Department of Agriculture to-day presents a striking and instructive contrast with its status when established as a separate Department in 1862. The organic law but faintly outlines the present labors and purposes of the Department. At its organization there were but three divisions in the Department and but few employés; indeed but one, the seed division, was generally known to exist, and to many minds its one object, the gratuitous distribution of garden and field seeds to miscellaneous applicants, comprised the beginning and the end of its aims and efforts.

But the Department has been able, under many and trying situations and despite the prejudices which were born of these misconceptions and the banter of cavilers, to keep pace with the development of the rural economies of our people, and it has so well commended itself to the country and to Congress that it has to-day no less than twenty separate and distinct branches, each busy in its own specialty and duty, and many of them sending through the country thousands of circulars, bulletins, and reports showing what science has to teach of the problems of the soil, of the insects which depredate, of the diseases which devastate, of the various other questions which continually confront our agriculturists, and making, as a whole, an aggregation of scientific effort suggesting advancement and improvement in agricultural endeavor.

The position which the Department occupies to-day, then, is that of an adviser in those investigations and enterprises which are to have an important bearing upon the future agriculture of this country. In the beginning the Department may have been an experiment, but its condition now should leave no doubt as to the precise relation which the Department should hold to the Government. The development has been natural, and there may be a valuable lesson in the history of its evolution. The relation to which I refer needs to be recognized, not through the mere changing of a name, not through any radical legislation which may meet the favor of one class and the disfavor of another, nor yet through any entangling alliances which would only serve to distract attention from the one great and leading thought which should always possess those who administer the affairs of the Department, but rather through a well-endowed Department, fully authorized to employ scientific experts and specialists in its several lines of investigation at just and reasonable compensations, fully equipped with the latest and

most approved apparatus, with conveniently arranged work-shops and safe and healthful surroundings. If it is wise to prepare for war in time of peace, shall we not give a thought at least to famine in time of plenty? Our farming population is not always to enjoy the blessings of the returns from a virgin soil. Science and sense are to be the hand-maidens of our future agriculture and commerce, and it is not too soon for us to anticipate what the requirements are to be if we are to continue in our present state of agricultural independence and supremacy.

The salaries paid in this Department for scientific and special work are not in proportion to those paid in other branches of Government and in private institutions for work of a like responsibility. During the year other Departments of the Government, as well as a State agricultural institution, have been enabled to take from the chemical division of this Department three of its best chemists and transfer them at largely increased salaries. A chemist, or any other employé, ought to be worth as much in this Department as in any other; but the equalization will only come when the Department has a well-defined, distinct status, where its needs and requirements will have that recognition and respect which are accorded to the older Departments.

It has been my aim during the year to continue established lines of investigation, and to inaugurate new ones for which a necessity appeared to exist in the progress of development of the Department and of national agriculture. Five new sections have been organized during the present administration.

The Department was established to subserve the various interests and industries of agriculture. Plants and seeds that are the germs of future rural industries have been introduced; experiments that are to cheapen and facilitate production, and those that may have an exceedingly important bearing upon our industrial economy and national wealth, have been made; organized effort has been essayed to secure early and accurate information of crop products, to give the isolated producer all the information which the buyer can possibly obtain; and various practical applications of the latest discoveries of science, that are needed to relieve the burden of toil, have either been initiated already or form a part of a vast array of investigation which only awaits the necessary encouragement on the part of the legislative branch of the Government.

Nothing better illustrates the present status of the Department than the gratifying demand for its various official reports. No less than 380,800 copies of these have been published and distributed the past year—a record which exceeds anything within the history of the Department by nearly 150,000 copies. But this does not include all the information disseminated by the Department. Congress distributed, through its Members and Senators, 375,000 copies of the Department's Annual Report of last year, and, in addition, also distributed directly several thousand volumes of special reports prepared by the Department

Nor does this indicate fully the wide-spread interest in the work in which the Department is engaged. Invitations are constantly being received by the Department to send its representatives in some particular branch of science to conventions and meetings that are called to discuss the problems of agriculture. I have considered it my highest duty to respond to this demand as far as possible, and I have sent agents to various parts of the country to meet with and confer with the people for the purpose of discussing those questions which relate to the common weal. The Department has exchanged in this way the experiences of science for those of practice, and its agents have been enabled to acquaint themselves with the immediate wants of those assembled and to supply the information required to institute the needed investigations. It will be realized, therefore, that the Department of Agriculture, through its publications and through these efforts, may benefit incalculably a vast constituency, and that a successful administration of its affairs can only be conducted through a vigilant, energetic, and progressive policy.

During the year I have constantly endeavored to administer the office in this spirit. There have been experiments conducted which promise interesting results, and one of which bids fair to signalize the year of 1887 as one of the most important in our history. The manufacture of sugar from sorghum is a question to which time and money have been devoted by Government and by private enterprise. Varied successes have been achieved. Success has alternated with failure, from a financial point of view; encouragement has given way to discouragement, and enthusiasm to lethargy, until recently, when the Department conceived the idea of applying an entirely new process, so far as sorghum was concerned, but one known throughout Europe as applied to the extraction of sugar from the beet.

Enough was shown in experimental work with the diffusion process to justify me in sending an agent abroad to study the details of the machinery, to personally examine the several methods of manipulation, etc., and to acquaint himself generally with those points, in detail, which might be conducive of success. In this, as in many other instances that might be cited, the information and experience thus secured proved to be only the germ of what was to be the new process, American genius and American thought quickly applying themselves and solving the mechanical and other difficulties which were as sure to be met with in adjusting beet machinery to the uses of the sorghum plant, and in the manipulation of its juices, as in any other radical change. However many mistakes were made, however much sacrifice of time and money and thought were involved, whoever may be entitled to criticisms for temporary failures, or plaudits for successful experiments, one thing seems sufficiently assured to outweigh all other considerations as to how the victory was accomplished, *i. e.*, the solution at last of the problems which are involved in the economical and success-

ful manufacture of sugar from sorghum. It is yet too early to make to you an official report of the results, in detail, of the present year's experiments in this direction, but enough is known already, I think, to enable this country to anticipate, at an early day, the production of a sugar supply from a plant as easy of cultivation as corn, but little circumscribed by climatic influences, and one whose by-products have a value equal to the cost of raising.

In my first annual report I referred to the gratifying results of a convention, composed of delegates from agricultural colleges and experiment stations, called by me for the purpose of developing a system for the unification of the results of experiments and reports by them. The succeeding year I devoted a goodly space in my report to you to a survey of the field of experimental agriculture. I am happy to say that Congress, at its last session, enacted a law providing for Governmental aid in this direction, through the respective experiment stations of the country, and another meeting of the delegates referred to was held at this Department in October last, to discuss the adaptation of the measure to the respective stations and to agree upon a uniform plan of operation. The meeting was an eminently successful one; it was fully reported for the Department, and its proceedings will be published as a special report. The result of the meeting was moreover a most gratifying outcome of my efforts to establish relations which ought long ago to have existed between this Department and the several colleges and stations. Happily the bill in question will result in much good, and much more can be accomplished if Congress will recognize the necessity which has become quite imperative at this stage in the progress of scientific experiment in aid of practical agriculture, of the establishment, under the immediate supervision of this Department, of a central experiment station, with proper accessories, for the investigation of questions affecting large areas, and such as relate to the whole country. This should constitute, in connection with a properly organized clerical force, a division of the Department, charged with the duty of collating and consolidating the main results of work of all experiment stations, of co-ordinating their work, and disseminating the results obtained, and of presenting also the results of similar research in other countries. I recommend the establishment of such a station and division in this Department.

BUREAU OF ANIMAL INDUSTRY.

The work of this Bureau has been greatly increased and extended during the past year. The appropriation act approved June 30, 1886, gave authority to expend money for the purchase and destruction of diseased animals whenever it is essential to prevent the spread of pleuropneumonia from one State into another. The total eradication of the plague being necessary, in the opinion of experts, to prevent its spread from State to State, it was decided to use the money appropriated in

the purchase and destruction of diseased cattle wherever this action would have a tendency to secure such eradication. It was evident, however, that to purchase diseased animals wherever found would not effect such eradication unless, by co-operation with State authorities, regulations could be enforced which would secure the control of exposed animals, and the disinfection of premises.

In August, 1886, by co-operation with the authorities of the State of Maryland, the purchase and destruction of cattle affected with pleuropneumonia was begun. In this case the exposed cattle were to be disposed of by the Maryland Live Stock Sanitary Commission under the State laws. Owing to the expense attending the quarantining and slaughter of exposed cattle, few other States were willing to co-operate for the extirpation of this malady until after the appropriation act approved March 3, 1887, went into effect. This act increased the appropriation to \$500,000, and authorized the use of "any part of this sum in the purchase and destruction of diseased or exposed animals and the quarantine of the same."

Immediately after this bill became a law, rules and regulations were prepared in accordance with section 3 of the act of May 29, 1884, and were certified to the governors of all the States and Territories, with a request for their co-operation in enforcing them. The governors of thirty-one States and Territories have accepted these rules and regulations, and have promised the assistance of local police officers to secure their enforcement. In addition to this the legislatures of the States of Rhode Island, Virginia, New York, and Illinois have enacted laws providing for co-operation and placing the work in charge of the Bureau of Animal Industry. With these laws and regulations the work of the Bureau has been carried on in all of the States where pleuro-pneumonia has been known to exist, with the single exception of Pennsylvania. The governor of Pennsylvania has expressed his desire to co-operate, so far as is possible under the laws of his State; but as the officers in charge of this work found but few infected herds, and reported that these were promptly disposed of according to State law, the necessity of action by this Department is not yet apparent.

The worst infected counties, and those from which there was most danger of the spread of the disease, viz., Cook County, in Illinois; Westchester, New York, Richmond, Kings, Queens, and Suffolk, in New York; and Baltimore, Howard, Carroll, and Prince George's, in Maryland, have been placed in quarantine and no cattle allowed to leave them without a permit issued after a special examination. By this means new outbreaks have been almost entirely prevented. Before these regulations were made the contagion was carried to the counties of Washington and Delaware, in the State of New York, and quite widely disseminated. It was stamped out, however, without any serious interference with the trade and commerce of these sections. It was also carried

into several counties of New Jersey, but in the most of these cases it has been extirpated.

From the beginning of the work for the eradication of this disease, in August, 1886, to October 31, 1887, the inspectors of this Bureau have carefully inspected 15,387 herds, containing 117,480 animals, in districts where the plague was supposed to exist. Among these there were found 798 infected herds, containing 10,766 animals, of which 2,235 were affected with pleuro-pneumonia. These figures do not include 2,873 head of cattle in the distillery stables of Chicago, nearly half of which were diseased. The number of animals found affected with this disease, and the number of infected herds, were much greater than had been anticipated, and the work for its control has consequently required a correspondingly larger force, and greater expenditure of money. Our progress, however, has been very satisfactory, and the appropriation has been found sufficient to meet the demands which have been made upon it.

At the time of writing my last report the serious outbreak of pleuro-pneumonia at Chicago, Ill., had recently been discovered, and there was great danger that the plague would extend and cripple the great cattle industry of the Western States. By promptly placing a guard over the worst infected stables, and by co-operation with the State authorities for the destruction of all diseased and exposed cattle, and the thorough disinfection of premises, the contagion was not only prevented from spreading, but I am happy to say it has been entirely extirpated. The restrictions placed upon the movement of cattle from Illinois by the authorities of other States and Territories are now being removed, and within a short time this interstate traffic will again be carried on with entire freedom. While the loss to the farmers of Illinois from this temporary interruption of trade has been very heavy, and the restrictions have been burdensome, it is a matter for congratulation that it was possible to remove the source of this trouble in so short a time.

The work done in Illinois from October 1, 1886, to November 1, 1887, is shown by the following figures: The total number of herds examined was 7,285, in which were found 24,161 head of cattle. *Post-mortem* examinations were made on the carcasses of 7,693 animals, of which 1,425 were found affected with pleuro-pneumonia. The total number of cattle purchased for slaughter by the Department, because exposed, or supposed to have been exposed, to the contagion, was 988, of which 172 were affected with pleuro-pneumonia. The number of stables disinfected was 634. The total expense in suppressing this outbreak to October 31 has been \$66,329.11, of which \$3,179.53 was for affected and \$13,569.03 for exposed animals. There will be some slight additions to these figures, as the accounts are not all adjusted, and there is still some work to do.

Very satisfactory progress has been made in the other infected States. In New York there have been purchased for slaughter 646 exposed cattle and 153 affected ones; in New Jersey, 67 exposed and 57 affected;

in Maryland, 1,287 exposed and 1,285 affected. The plague has been completely eradicated from Washington and Delaware Counties in the State of New York, and several counties in New Jersey and Maryland have been nearly, or quite, freed from it. A thorough inspection of the District of Columbia, and of the counties in Virginia which were infected at the time my previous report was written, shows that the disease no longer exists in these sections.

There has not been a time in years when this malady has been confined to such restricted areas as at present, and consequently the conditions are very favorable for its complete eradication. If the State authorities continue their co-operation as at present, which there is every reason to expect, and if an appropriation is made by Congress equal to that of the present fiscal year, and with authority for its similar use, it is believed that this dangerous plague can be exterminated by the end of the next fiscal year.

While the work for the suppression of pleuro-pneumonia has been by far the most extensive of any done by the Bureau, investigations of other contagious diseases have been made which have yielded very important results. Such investigations have for their object the discovery of the essential nature of these diseases and the methods by which they can be most effectually prevented. The advances of knowledge in this direction are not only of value to the farmer in assisting him to save his property, but they are of great advantage to the consumer by their tendency to improve the quality of the meat supply. To the country at large such questions are worthy of attention, since animal food can not be produced in abundance and cheaply in countries where animal plagues are allowed to ravage the flocks and herds without intelligent efforts for their control. Our country has been especially fortunate in the past in having but a limited number of such diseases to contend with, but with the increased importations from the Old World, and the shortening of the time required to make the voyage, other forms of contagion are being introduced, and unless proper regulations are made and enforced we will soon have to contend with all the maladies which have hindered the production of live stock in Europe and Asia. There must continue to be, for this reason, an increasing demand for the services of the Bureau of Animal Industry, and the powers of the Bureau should be increased and its organization perfected, so that it may accomplish the entire work for which it was established.

In addition to the work for the investigation and control of animal diseases, inquiries have been made in connection with many special subjects bearing upon the economical production of animal products.

The quarantine of cattle from foreign countries has been maintained during the year by this Department. Owing to the low price of cattle in this country the importations have been very small. No case of contagious disease has been discovered among imported cattle since my last report, and the safety of our quarantine system is shown by the

fact that no case of pleuro-pneumonia or other contagious disease has ever been traced to cattle which have been discharged from any one of our quarantine stations.

DIVISION OF ENTOMOLOGY.

The work of this division during the past year has been signalized by the completion of two important investigations; the one upon the Cottony Cushion Scale of California, and the other upon the Hop Louse. Both of these investigations were mentioned in my last report.

From the middle of March, until nearly the middle of May, the entomologist was in California, concluding the first of these investigations and studying the other insect pests of that State. His observations supplemented those made by two field agents of the division, who were stationed in Los Angeles County during the greater part of the summer of 1886, and the results are included in the Annual Report for 1886. Other supplementary facts concerning this investigation, bearing for the most part upon the original habitat of the species and summarizing an extensive correspondence with naturalists in Australia, New Zealand, and South Australia, but also including the results of certain experiments with gases against this and other scale-insects, have been published in Bulletin No. 15 of the division.

As stated in my last report, the entomologist and one assistant visited the hop-fields in September, 1886, and made important observations. During the greater part of the present season three assistants have been stationed in the hop-growing region of New York State, one studying the life history of the hop-louse, and the other two experimenting with different remedies, and particularly with cheap and effective means for the application of insecticides. Another agent was sent to the hop-fields of Wisconsin during August and a part of September, where he collected additional information and made confirmatory observations. The entomologist, moreover, has been in the field at several times in the course of the season superintending these observations, and the results of the investigation are more satisfactory even than I had hoped. There is now no reason why this pest, which last year damaged the crop to the extent of hundreds of thousands of dollars, should be longer feared by hop growers. The results will be published at length in my annual report.

In consequence of impaired health brought on by long overwork, the entomologist was given four months' leave of absence without pay, during the late summer and fall. In this time he visited Europe, and in England read papers before the Manchester meeting of the British Association, and carried on a series of observations upon the hop-louse in that country, confirming observations made upon the same insect in this country, and announcing new and important facts in its life history to the English hop-growers. He also devoted some attention to the Hessian fly question, which is at present profoundly agitating the agriculturists of Great Britain.

The entomologist also visited the continent and investigated the latest European insecticide machinery, a large mass of which he found to be simply reproductions or modifications of devices invented in the course of the investigations of his own division. The report of the international congress at Florence, mentioned in my last report, and which has just been published, indicates this fact very plainly, and it can but be a source of gratification in this country.

The investigation upon the Southern Buffalo-gnat has been continued during the present year. An agent has been stationed for the greater part of the season in Arkansas and Mississippi, and the results obtained have been of considerable practical value, although there are still several obscure points in the life history of the insect, which, although they have so far baffled the skill of the observers of the division, will doubtless be cleared up another season, and may suggest a practical and easy means of fighting this great pest.

Considerable time has been devoted during the year to the collection of data concerning the Chinch-bug, which has been extremely injurious in several of the States, and also concerning the Plum Curculio and the Codling Moth. All of these are well-known insects and much has been written concerning them. There are, however, no standard articles which are readily available, and the entomologist will include comprehensive accounts of each of these three insects in the next annual report.

The publications of the division have been, in addition to the annual report of the entomologist, Bulletins Nos. 10, 13, 14, 15, and 16.

Bulletin 10 comprises an account of the most injurious insect defoliators of our shade trees. It is illustrated with numerous text figures and by a plate, and was called forth by the great damage done by the Fall Web-worm and a few other insects to the shade trees of Washington and other eastern cities during the last two years. Bulletin 13 contains reports from several of the agents of the division, including a report upon a sudden and disastrous outbreak of native locusts in Texas in 1886; a report on insects injurious to forest and shade trees, continuing observations made during the past four years in New England and northern New York; a report on tests with insecticides upon garden insects in Ohio, and some general reports upon the insects of the year in certain of the States. Bulletin 14 contains a somewhat extensive report upon insects injurious to garden crops in Florida, resulting from observations and experiments made during the summer of 1886; a report upon the Buffalo-gnats and a report upon native plums and their influence upon the Curculio question. Bulletin 15 is devoted to matter concerning the *Icerya* or Fluted scale, known as the Cottony Cushion-scale of California, supplementary to that published in the annual report for 1886. Bulletin 16 contains a bibliography of the entomological writings of Dr. A. S. Packard, an agent of this division, and one of the most voluminous of living writers in entomology.

The increased funds at the disposal of the division have permitted the reappointment of some of the field agents who were furloughed on account of the reduction of the appropriation for the fiscal year 1886-'87, and increased efficiency is the result, and the work of the division has never been more satisfactory than at present.

The correspondence of the division has increased even over its former large proportions, and it has become a serious question how to do it full justice without allowing it to seriously interfere with the special investigations being made. Over three thousand letters have been answered, and when it is remembered that each letter requires more or less research and consultation with the collections and with the literature of the subject, an idea of the time expended in this part of the divisional work can be gained.

The work of the apicultural experiment station has been carried on in the same lines laid down in my last report. For convenience in obtaining supplies, and for other reasons, the station has been removed from Aurora, Ill., to Hinsdale, Ill. The work has consisted of the study of the various kinds of diseases to which bees are subject, including an inquiry into the causes of disease and application of suitable remedies. The work in this line of investigation has been singularly successful and satisfactory. Suitable fixtures have been devised and constructed for securing the benefits resultant from selective breeding by means of skillful crossing of the different races of bees, and persistent effort has been made to secure the control of the process of reproduction. This feature of the work has been only partially successful owing to the prevalence of a drought of unprecedented duration and severity, but much information of scientific value has been obtained which will be of practical service under more favorable and normal climatic conditions.

Some progress has been made in testing the qualities and characteristics of some varieties of ancestral stock, and the results attained furnish encouraging assurances of what may be realized in the future in producing a variety of bees completely adapted to domestication under the varied conditions existing in different parts of the United States. Information concerning the wintering of bees, the values of different varieties of bee-forage plants, etc., have been obtained, and will have place in the reports of the agent in charge.

SILK.

There is no experiment, with the exception of those prosecuted in the manufacture of sugar from sorghum, to which I have given more thought during the year than to that now being conducted in the Department in the reeling of silk. Congress has been liberal in its assistance in this direction, and every energy has been put forth to solve the problem of the successful and profitable reeling of American cocoons.

The silk industry is one which well deserves most careful and intelligent thought. The raising of the cocoons depends upon no particular

financial, commercial, or agricultural condition. It requires no capital, no factory, no skilled labor, the food upon which the worms feed matures soon after the winter's snow and spring rains, and is unaffected by the droughts of summer and unattended by diseases; and above all, it is a work which may be carried on at the humblest cottage by the children, the women, and the aged of the family, and it offers a clean, pure, and interesting employment to those who would otherwise be unemployed at the rural home. The question then is, can it be made a profitable employment? Will there be the incentive of a market for American grown cocoons? The experiments conducted during the year here, and those which I hope are to follow them, are to decide this important problem.

Already one question seems to have been decided which will be a source of national pride and patriotic congratulations, and will also abundantly repay the country for the outlay thus far made. For general operatives I have employed American girls. They were inexperienced and had never handled silk cocoons. A large portion of time has therefore been consumed in training this force in the requisite alertness and accuracy, but this has been deemed wise, because I had in view the promotion of a staff of American operatives thoroughly conversant with the trade, and therefore the sacrifice seemed justifiable. Of course, immediate return by way of profit could not be expected under such conditions, but I have the verbal admission of Mr. Serrell, the inventor of the reels with which I am now experimenting, after comparing the results obtained in one of the processes of reeling, that the operatives in Washington can do twice as much work in a given time, as the same number employed in the south of France.

This admission is fully corroborated by other evidence in my possession. An agent of the Department has examined into this matter this summer, and found in a large Italian establishment which he visited, that there were employed a great number of very small girls, who received but about ten cents per diem. But it is generally conceded that the expense of watching and superintending these children more than counterbalanced the low price of their labor, even if the damage done through their lack of experience were not considered. He reports to me that, after full examination, it is his firm conviction that the superior intelligence of our American girls, and their superior manner of living, will overcome, in silk reeling, as readily as any of the other trades, the difference in the cost of labor between Europe and America.

At the same time it is too early yet to place entire reliance on this superior American intelligence; and these remarks would not accomplish their end if they were construed to mean that our superiority in this quality should outweigh the centuries of experience possessed by the French and Italians. To gain a like experience has been the chief aim of my assistants, with a view to making us, ultimately, independent of foreign experts.

One difficulty encountered has been the inferior quality of the cocoons purchased, many of which, though originally of excellent quality, have been ruined by improper stifling, or allowed to mould through negligence. That this difficulty is abating is shown by the superior results obtained from the crop of cocoons produced this year over those produced in 1886. It must not, however, be inferred that much does not remain to be done in this direction, for much may be gained by the establishment of purchasing stations which shall be feeders to the Washington filature, and where cocoons may be purchased when fresh, and stifled and dried in large quantities and by improved methods. In fact, much surprise has been expressed by the French reelers at the results which we have obtained by the reeling of mixtures of many small lots stifled by many different processes.

There were purchased, of the crop of 1886, 1,513 pounds of cocoons of an average value of 95½ cents per pound. Of these, 1,062 pounds were reeled and produced 260 pounds of silk worth \$4.75 per pound, while the remainder has been sold as waste at 50 cents per pound. From these figures it may easily be deduced that the experiments are not by any means paying expenses, but that is a result which can hardly be hoped for with a plant so small as that employed here. We hope, however, to gain, in another year's experience, indications of what could be done if working under factory conditions.

What leads me to be more hopeful in this respect is the fact that Mr. Serrell has so improved his reels as to do away with much of the hand labor incident to the apparatus which we are now using, this hand labor having been found extremely tedious and expensive. I have already perfected arrangements by which the Department is to be allowed to construct and operate some of these improved machines, and I am now having drawings of them prepared with this object in view. By their use it is hoped to double the output without increasing the force employed. These machines will probably have been put to a very thorough test before the publication of my next annual report, and I hope at that time to be able to make some definite statement regarding the probable success, or non-success of the industry in the United States.

In addition to the experiments already recited, others have taken place at Philadelphia under the direction of the Women's Silk Culture Association of the United States, and a report thereon has been submitted to me, in accordance with law. This report will, pursuant to the direction of Congress, be transmitted to that body at the proper time.

DIVISION OF STATISTICS.

The work of collection and co-ordination of the facts of agriculture in this country, and in a more limited sense throughout the world, has progressed successfully during the year. The application of statistics to business furnishes the balance-wheel which regulates its operations. It is the guide of the legislator, the counselor of the merchant, and

the friend of the farmer. It suggests what to plant for profit and how much will fill the demand; it detects the erroneous practice and points out the more profitable method. Its uses in this division are in the interest of accuracy and truth, the improvement of American agriculture, cheaper production, and more economy in distribution.

The yearly development of agricultural statistics, under national authority and voluntary organization, throughout the world, is opening new fields for collection and enlarging the accumulating stores which furnish material for the use of this division. Much has been done during the past year in classifying and systematizing the records. A comprehensive plan of indexing statements and facts for easy reference is in operation, calculated to save much time that might be wasted in fruitless research, and increasing greatly the possibilities of prompt and efficient service.

The facts of agricultural production, foreign and domestic, in this as in former years, point to large yields where labor is high and economy compulsory, and low rate of production where land is cheap and abundant. It exhibits the anomaly of large production on old lands of moderate original fertility, and small yields on rich and virgin soils, and hints at rewards of skill and applied science, and the punishment of negligent and superficial cultivation. One year with another statistics shows that the new lands of America and Australia yield per acre only about half as much as the sands of Holland and the English lands that have had centuries of cultivation; and that the richer the soil the swifter the decline in yield, in some cases, because weeds the sooner smother the wheat in the absence of cultivation. In accord with this fact, census and crop reports show a better average yield in the principal winter-wheat regions than in the spring-wheat districts, in the old lands than in the new, in the domain of rotation and fertilization than in that of primitive wheat-growing.

The effective force of this division usually includes about sixty persons in the Department, over twenty-three hundred county correspondents, each having at least three assistants, and State agents with some thousands of their reporters. Our foreign service is under the direction, as heretofore, of Mr. E. J. Moffat, the deputy consul general at London, who has authority to employ the consular resources of this Government in Europe, and the aid of European statisticians and experts in agricultural and commercial information, for the purposes of his statistical investigation, which relates primarily to those products in which the United States may have a competitive interest.

The printed reports of the division for the year include an annual report and eleven special reports, making about eight hundred pages. The miscellaneous manuscript reports, statements, and letters comprise thousands of manuscript pages.

The crop-reporting system of the Department is not a census, which would be an impossibility. The units of a crop can not be counted till

grown, and a veritable count would be useless because too late. Crop reporting is counting in advance by instantaneous generalization. Is it worthless, as some pretend? Fortunately there are a few tests available. There is one crop, cotton, that is enumerated quite accurately. The record of the National Cotton Exchange furnished in September, 1887, of the actual growth of 1886 was 6,443,000 bales. The estimate of the statistician of this Department was just 17,000 bales more, and that of the Exchange 40,000 bales less. Either is a wonderfully accurate forecast. The Department estimate exceeded the recorded yield by seven ounces of lint per acre. For three years past the forecast has been nearly as close. The wheat estimates for six years make an average of 439,274,270 bushels; the consumption, on the basis of $4\frac{1}{2}$ bushels per capita, the actual exportation, and the seed, together required 440,735,346 bushels, showing an excess over estimates of nearly a fourth of a million bushels per annum. It may not be possible always to make so close a forecast; in the minor crops discrepancies occur; but the continued and pronounced success in the principal crops shows what can be accomplished under a system which is now coming into use throughout the world.

The production of the present year is not quite up to the average rate of yield. The crops which are notably deficient are corn and potatoes, both affected very seriously by the severe drought in the West. Cotton was also reduced by seasons characterized by great extremes of moisture and of inequality of temperature, which reduced vitality and decreased the rate of yield. Hay is another important crop which suffered from drought in a large district in the West, though abundant elsewhere. The cereals were generally harvested before the severity of the drought was felt, and made nearly average yields.

The indications of condition and rate of yield point to a corn crop of about 1,453,000,000 bushels. The area planted was expected in July to produce more than 2,000,000,000 bushels. Six of the past seven years have had crops under average. The average for 1881 to 1886, inclusive, was 24 bushels per acre, while that from 1878 to 1880, inclusive, was 27.6 bushels per acre. Though it is not probable that a periodicity of fat and lean years in corn production exists, this marked difference must be due to meteorological influences, which it would be interesting and instructive to know definitely. The rapid increase of acreage, however, prevents a decrease of absolute product, the six bountiful years showing an average of 1,434,000,000 bushels, and the lean years making an average of 1,639,000,000 bushels.

The wheat yield is slightly below that of last year, but with increase of area the season will aggregate nearly 450,000,000 bushels. The oats crop amounts to 600,000,000 bushels, approximately. Barley, rye, and buckwheat are nearly medium crops.

The minor crops of the country have been generally productive in a moderate degree.

There has been a serious failure in potatoes, the product being about 131,000,000 bushels, at the rate of 56 bushels per acre, as low a rate of yield as has ever been reported, 1881 having nearly the same average.

The cattle of the country have been decreased by losses on the plains and in the mountains, and flocks of sheep are reduced from the discouraging effect of low prices, but the statistical position renders almost certain an increase in the value and profit of meat production.

An important feature in the current work in this division is the preparation of a series of charts and maps to show the geographical distribution and limitation of important crops. There has been frequent inquiry for such graphic illustrations in various lines of agricultural statistics, and it is very desirable to extend the work of the division in this direction.

Another line of statistical investigation of the highest importance, for which Congress is asked for a special appropriation, is a thorough statistical survey of the Territories and States of the Rocky Mountain region. There has been much done by the General Government to indicate the wealth of minerals beneath the surface, but nothing, except from the pittance available from the regulation appropriation, for collection of statistics of agriculture, for the description of the magnificent agricultural resources of this great continental area, and the exact results attained thus far in their development. Without it, a close approximation of the rapid changes occurring in the cattle husbandry, wool growing, in irrigation and other improvements, in the introduction of new grasses and various plants, cannot be made. This region is destined to achieve a progress that few at present realize as a possibility. It is a district comparatively neglected, and reasonable complaints of such neglect are not unfrequently made. *

I desire in this connection to make public acknowledgement of obligations, personal and official, due and gratefully tendered to the public-spirited and intelligent farmers who constitute the department corps of crop reporters. They stand as a guard of honor over the interests of the great class which they represent, in opposition to reckless and irresponsible misstatement of crop prospects for private speculative purposes. They realize that the exact truth, if it can be ascertained, is best for the interest of all, and that an inaccurate statement destroys public confidence and recoils upon its perpetrators. They are deserving of the gratitude and respect of the nation for their freely given and unenumerated labors.

The statistician of the Department of Agriculture, Mr. J. R. Dodge, a member of the International Statistical Institute, was designated as the representative of the Department, in accordance with provision made by the last Congress for such representation at the first biennial meeting of the Institute, which convened in Rome, Italy, on the 12th of April, 1887. This body was organized for the development of the progress of administrative and scientific statistics throughout the world,

and is limited to 150 members, at present comprising little more than half that number. It seeks to secure greater uniformity in the schedules for statistical returns of different countries, to unify international methods in statistics, and to render comparable statistical results of different countries. It intends to prepare international publications in elucidation of statistical questions, and to invite the attention of governments to the questions to be solved by statistical investigation.

The Italian Government co-operated generously in making the sessions of the Institute profitable and agreeable. The status of landed property, the methods of census enumeration, questions of economic and social statistics, and statistics of labor occupied a large share of the time of the session, and work in several directions was initiated for the *ad interim* service of several committees.

A further commission was for the investigation of the methods of national bureaus of statistics, and a collection of all available published results of their work in Rome, Paris, Vienna, Berlin, The Hague, Brussels, and London. The time occupied, ten weeks, though too short, was sufficient for accumulation of much valuable information and large accessions to the official literature necessary for daily reference in the work of the division.

DIVISION OF CHEMISTRY.

The line of investigation undertaken by this division in food analysis and methods for the detection of food adulteration has been continued and supplemented, and now includes the following classes:

(a) *Dairy products*.—The investigations of the different constituents of milk and butter, and butter substitutes, have been continued, and the results have been published in Bulletin No. 13, Part I. A new apparatus for the determination of fat in milk has been tested and found to be exceedingly efficient, permitting a larger number of analyses to be completed with equal accuracy in less time than by any other method. This instrument is the lactocrite. It effects the separation by centrifugal force. From its simplicity and rapidity of manipulation it would form a valuable addition to the plant of large dairy farms, where it is desirable to perform a large number of tests in a day.

(b) *Spices and condiments*.—The work mapped out during the past year for an exhaustive examination of this very largely adulterated class of foods has been brought to a close and embodied in Bulletin No. 13, Part II.

(c) *Commercial fertilizers*.—As in the preceding three years, the Association of Official Agricultural Chemists received the hospitalities of the Department of Agriculture, and their fourth annual convention was held in the library of the Department during the past summer. The analytical methods and details of manipulation adopted by this body for the analysis of commercial fertilizers and agricultural products have been published in Bulletin No. 16, and some of the analytical experi-

ments for verifying the methods adopted were performed by this division.

(d) *Fermented alcoholic beverages*.—Pursuing the investigation of foods and food adulterants, the scope of examination was extended to wines, fermented and malt liquors, and ciders. The report containing the analytical data and their discussion is now in press and will shortly be issued as Bulletin No. 13, Part III.

(e) *Coffee, tea, and chocolate*.—To ascertain the nature and extent of adulteration practiced in the preparation of the above-named articles for the market, a large series of analyses has been commenced, and will be continued, and it is hoped that valuable data will be accumulated for future publication.

(f) *Baking powders and bakers' chemicals*.—An investigation into the composition and value of the various brands of baking-powders found in our markets has been commenced, but the work is not yet sufficiently advanced to warrant any conclusions.

Sugar experiments, as in former years, have been extensively undertaken and require a detailed statement of work conducted at Fort Scott, Rio Grande, and Magnolia Plantation by the Department.

This statement will be published as a special bulletin.

The number of miscellaneous samples submitted during the past year has been exceptionally large, comprising waters, minerals, fertilizers, ores, lignites, analyses of plants and parts of plants, and many other articles of general or particular interest.

DIVISION OF BOTANY.

The work of the division of botany has been vigorously prosecuted during the year. Its correspondence is constantly increasing, relating to grasses, fibers and fibrous plants, medicinal plants and products, new species for cultivation, weeds and means of eradicating them. A bulletin concerning Southern grasses has been issued and widely distributed among Southern farmers and stock growers. An investigation of the grasses and forage plants of the arid districts of Texas has been conducted by an agent, and a large amount of information has been obtained.

Another agent has performed a similar work in Arizona, Nevada, and Utah, making a collection of about two hundred species of grasses and forage plants having more or less agricultural value. Through these investigations our knowledge of the vegetation of the arid regions has been much increased, particularly in regard to those plants which have been found useful among stock-growers.

A question of the greatest importance for the arid districts of the West and Southwest is that of securing an increase in the grazing capacity of the lands through the introduction of new grasses and through cultivation. I desire first to obtain a thorough knowledge of the natural grasses and plants which are utilized by horses, cattle, and sheep,

as to their abundance, choice of soils and locations, their size and vigor, and their comparative nutrition. Then there should be instituted in suitable localities a thoroughly conducted series of experiments with all the promising species of the region itself, and of such other kinds as have been found useful in similar locations in other countries. To this end I shall invoke the aid of the experiment stations connected with the agricultural colleges of the region interested. It is, however, a question whether more good would not be accomplished in a shorter time in a few stations established for this express purpose.

There yet remains considerable territory to be explored with reference to the native grasses, and a continuation of the appropriation for grass investigation is earnestly recommended.

About 6,000 specimens of plants have been mounted and added to the herbarium during the year, and 36 packages have been distributed among agricultural colleges and institutions, and to individuals for exchange. The herbarium serves a double purpose. It is necessary for consultation and comparison in determining the names of specimens which are the subject of inquiry and investigation, and it is highly important in a scientific point of view, as being a repository of botanical specimens of the productions of the country. A large majority of all the known plants of this country are already represented in the herbarium. But it is still deficient in the plants of many sections, mainly in such kinds as are strictly local, and restricted in their range, and not obtainable through the ordinary channels.

For the past ten years there has been no botanical work performed in connection with the Government surveys. Previously it was the practice to have naturalists connected with the surveys and explorations, and the botanical collections made by them were finally deposited with the Department of Agriculture. In this way the herbarium was enriched, and a stock of duplicates for distribution was accumulated. Since the abandonment of natural history in the surveys, the enlargement of the herbarium has depended on a small annual appropriation for this purpose. There is now urgent need for more Government aid in the prosecution of botanical work. The Government herbarium should be made to contain a complete representation of all the plants known to grow within the limits of this country. It also needs the services of specialists in the elaboration of certain orders. Therefore, for its improvement in the directions mentioned, and to make it more useful to science and to practical agriculture, I recommend that the appropriations for this division be suitably increased, and that an increase be made in the working force.

SECTION OF VEGETABLE PATHOLOGY.

To the section of vegetable pathology are referred for investigation all questions relative to the diseases of fruits and fruit trees, grains, and other useful plants, due to parasitic fungi, which are familiarly

termed "rust," "smut," "mildew," "blight," "rot," etc. In accordance with my recommendations to Congress at its last session, this section was regularly established by law, provision was made for a chief of section, with an assistant, and a small appropriation, necessary for the prosecution of its work, was granted the Department.

Throughout the year the duties of the section have been carried forward energetically, and its published reports have met with the heartiest approval of fruit growers and farmers. The constantly increasing correspondence of this section clearly demonstrates the appreciative interest taken in its work.

The report on the fungus diseases of the vine, referred to in my last report as being in preparation, was published in December, and its favorable reception by the public press and by grape growers all over the country give assurance that it has been the means of accomplishing much practical good. The first edition of this report is now nearly exhausted, and I hope to be able to prepare a second and enlarged edition, which shall embrace the discoveries made during the present season and combine the results of the recent French investigations, both upon the diseases of the vine and the efforts which have been made in France to combat them.

During the present season the French Government has sent to this country a special commissioner for the purpose of investigating our methods of viticulture and the fungus diseases to which our vines are subject. All possible facilities for the furtherance of his work have been afforded this commissioner through the section, and the most cordial relations have been established between those now specially engaged in investigating diseases of the vine in France and in the United States, which will doubtless result in good to both countries. The chief of the section has visited the more important vine-growing regions of the United States, in company with the French agent, and a full and complete report covering the entire subject of vine diseases is expected as the result of the investigation made.

A new disease has appeared in the vineyards of California, and in response to requests for its investigation I have directed an agent to visit the infected districts, and to investigate this malady, in the hope of protecting the vine-growers of the State from the threatened destruction of their vineyards.

Special experiments in the treatment of grape mildew and rot have been made in a number of vineyards especially selected for the purpose, with the view of determining the relative efficacy and cost of the several treatments suggested. The data thus gathered have led to some valuable conclusions, and will be of the utmost service in conducting future operations.

Early in the season a circular giving formulæ of the most approved remedies for mildew and rot of grapes was widely distributed, and many responses giving results of experiments have been received. It has

been demonstrated by these operations that, in order to obtain the best results in experimenting with remedies, the work should be done immediately under the direction of a person thoroughly conversant with the nature and habits of the fungi to be treated, and who can remain in the field and daily watch the results, and thus save time and obviate the danger of drawing false conclusions. One false deduction tends to destroy public confidence in all work of this kind. By securing, either through purchase or rental, a small vineyard, wherein experiments could be made under the immediate and constant supervision of a competent officer, the losses which might occur through some trials would not fall upon individuals, and all the results obtained could be published with that official warrant which would inspire the confidence of all interested. The extent of the losses occasioned by fungus parasites certainly calls for the exercise on the part of the Government of every possible effort to discover certain means for their destruction.

The question of the application of remedies has been a serious one, and doubtless some of the failures in the trials already made have been due to the use of improper methods. It was soon discovered that American machines for making the applications were far from satisfactory. They were either too cumbersome, or the labor involved was too fatiguing, or they were too wasteful of the materials used. For several years past special efforts have been made in France towards perfecting spraying appliances and bellows for the application of liquids or powders in combating the downy mildew of the vine by exhibitions and special premiums, resulting in the attainment of a high degree of perfection. Some of the most improved patterns have been imported for use in experiments. A report covering this branch of the subject is now in preparation.

Although many able papers have been published on the subject of peach yellows, and several observers have made careful scientific investigations of this very important but still obscure disease, the results so far obtained are far from conclusive as to its cause, possible remedy, or means of prevention. A special agent, to act under the direction of the chief of the section, has been commissioned to make a thorough investigation of this subject and to endeavor by every available means to settle beyond further doubt the questionable points. This work is progressing very satisfactorily, and extended investigations have been in progress since the first of July, in eastern localities, where the orchards have suffered most from the disease.

Early in the year a circular of inquiry relative to facts bearing upon the subject of potato-rot was distributed throughout the country, and the extent and value of the information gained thereby was most satisfactory. The work of compiling the information thus acquired has been completed and this material will form the basis of a report on this subject now in preparation. A map has been prepared which shows the distribution and severity of the disease in all parts of the country for a given year.

Other papers in the report of the section for last year relate to certain fungus diseases of the vine, and their treatment; celery-leaf blight, orange-leaf scab, a disease of orchard grass, and pear blight. A report on the powdery mildew of the gooseberry, or "gooseberry blight," has been prepared and is nearly ready for publication. Arrangements have been made for a report on the "smut and rust of Indian corn." Throughout the season the section has been collecting material for a report on the apple scab fungus, which is so wide spread in this country and often does such damage.

DIVISION OF GARDENS AND GROUNDS.

The introduction, propagation, and distribution of desirable useful plants is a leading function of this division, in the exercise of which, since the organization of the Department, good results have been accomplished. It has distributed many things which have been of great and acknowledged value to the country, and the experience gained in testing the hardiness and other qualities of plants previous to their general distribution has been the means of acquiring useful preliminary knowledge of their requirements, so that the Department can judge with much accuracy the climatic conditions under which they will prosper.

The conditions necessary to their full utilization, independent of climate, are also closely studied, so that the requirements for ultimate success and the probabilities of failure are alike ascertained to a degree which prevents, at least, costly failures during the experimental process of testing the practicability of new or untried industries. Tea-plants are still propagated and distributed, although there is no present prospect of the profitable production of tea as an article of commerce. There are many reasons why tea-culture can not be made profitable here in competition with other countries where the conditions for success are more favorable; but the principal drawback is the want of sufficient rain-fall during summer, which prevents the continuous successive growth of succulent leaves. But there is no reason why the culture of a few plants, enough for domestic use, may not become general wherever the plant will endure the climate. It is the object of the Department to encourage tea-culture to this extent, as there is no uncertainty about securing a good spring crop of leaves wherever the plant flourishes. Lately a large number of plants have been distributed throughout the State of Florida, and where the plants have been set in moderately rich, moist soil, their growth has been satisfactory.

The camphor-tree of Japan is being distributed in the Southern States, but mostly in Florida, with the view of its employment as a shade, and for planting as a protection for fruit orchards and groves. It is an evergreen tree, of rapid growth, and attains a considerable size. Its timber is of special value for certain purposes, such as for cabinets, where the presence of insects is not desirable, as they dislike the odor

of the wood; and the sublimation of camphor from the branches and twigs, may become a matter of experiment.

The efforts of the Department for more than twenty years have been directed to the introduction and popularization of the culture of Japan persimmons, and they have been successful in attracting the attention of commercial cultivators to the value of this fruit as a marketable commodity. Much interest is now felt in its production, and the demand for plants, formerly wholly supplied by the Department, is now fully met by nurserymen, who propagate the plants for sale.

The successful culture of the European grape has hitherto been limited to regions west of the Rocky Mountains and mainly near the Pacific coast line. Of late years vineyardists in Texas and Florida have been encouraged from the results of experiments made to enter more largely into the culture of the foreign grape. The Department has therefore propagated and has now ready for distribution a considerable number of plants of the best varieties of these grapes, with a view to render these experimental tests more general throughout the regions alluded to.

The demand for tropical and semi-tropical plants for experiment in the warmest portions of the Southern States increases with the population. Especially is this applicable to Florida, whence applications for numerous strictly tropical species are constantly received. The Department endeavors to meet all reasonable demands in this line, and has under process of propagation various plants which may ultimately prove useful in that State.

DIVISION OF ECONOMIC ORNITHOLOGY AND MAMMALOGY.

The work of this division during the past year, as heretofore, has consisted chiefly in the collection of facts showing the relation of birds and mammals to agriculture, horticulture, and forestry, and in the preparation for publication of two important bulletins, namely, (1) on the English sparrow, and (2) on bird migration in the Mississippi Valley. The general interest in these bulletins is shown by hundreds of applications for them received at the Department in advance of their publication.

As stated in my annual report for 1886, circulars and schedules asking for information in regard to the English sparrow were distributed by the division in 1885 and 1886. Replies were received from more than 3,000 persons. The information contained in these replies has been arranged for publication under seven different heads, as follows:

- (1) Time and manner of first appearance of the English sparrow; present abundance and apparent rate of increase; kind and degree of assistance and protection afforded or withheld by man.
- (2) Relation of the sparrow to other birds.
- (3) Injury to trees or vines.
- (4) Injury to fruits and garden vegetables.
- (5) Injury to grain.

(6) Relation of the sparrow to injurious or other insects.

(7) Methods of restriction ; suggestions for extermination ; miscellaneous information.

The introductory portion of the Sparrow Bulletin contains a synopsis of the principal facts brought to light by the investigation, together with deductions from the same, and suggestions to legislative bodies and to the people in regard to the best methods of abating the sparrow scourge.

The collection of material relating to the destructive ravages of rice-birds has continued, and a few experiments have been made with live hawks for the purpose of frightening the birds from the fields. These experiments have been only partially successful, owing chiefly to the fact that the Department was unable to secure the services of an experienced falconer to train the hawks and take charge of the experiments. One fact, however, was demonstrated, namely, that rice-birds will not come near a live hawk, even when resting on a stake ; and when in motion the hawk is effective at much greater distances than when at rest. There can be no question that hawks trained to fly about the fields would keep the rice-birds off, and the expense would be less than that of the present system of "bird minding."

The inquiry concerning the food-habits of the crow, the various black-birds or grackles, and several other species of special economic importance has resulted in the accumulation of so much information, that special bulletins on these subjects will be published as soon as the material in hand can be properly arranged.

One of the most important branches of investigation undertaken by the division is the critical examination of the contents of stomachs, gizzards, crops, and gullets of birds. The elaboration of this material is a slow process, requiring much technical knowledge, as well as patience, on the part of the investigator. A single stomach sometimes contains representatives of several of the primary divisions of the animal kingdom. For instance, a hawk's may contain at one time the remains of a meadow-mouse, a sparrow, a snake, a frog, a grasshopper, an earth-worm, and a snail ; representatives of the seven primary groups—mammalia, aves, reptilia, batrachia, arthropoda, vermes, and mollusca.

During the past year an assistant ornithologist has devoted most of his time to the study of the food-material found in the stomachs of hawks and owls, of which the division now has upwards of five hundred. A brief statement of the contents of each stomach is made on a card prepared for the purpose, and these cards are arranged under species. The results of this investigation will be published in a special bulletin.

The expenditure of large sums of public money in bounties on mammals (known or supposed to be injurious) in several of the States and Territories attests the urgent need of the investigations now in progress in the Department upon the food-habits and distribution of the various species and the best methods of destroying the injurious kinds. In

Montana alone, during the present year, more than \$50,000 was expended in bounties on prairie-dogs and ground-squirrels in about six months (from March 5 to September 12, 1887). It is stated that this bounty act exhausted the treasury and was running the Territory in debt, when the governor, with the permission of the President, called a special session of the legislature and repealed the law.

THE SEED DIVISION.

Very little need be said in reference to the work accomplished in the seed division, except to corroborate the fact that the reforms inaugurated at the beginning of my term of office have proved to be highly satisfactory, and judging from the unusual number of reports received, the seeds sent out during the present year have been exceptionally noticeable for their vitality and excellence of quality.

A more efficient system of reports has been adopted, and the replies indicate more fully than heretofore the special fitness of the numerous varieties for the localities in which the seeds have been tested. The system by which they are now purchased, a special guaranty being required from the parties from whom the purchase is made that the seeds shall not only be true to name, of good germinating quality, cleaned with extra care, so as to be both free from weed seed, or eggs, or larvæ of injurious insects, and the strict and close test to which they are subjected before payment is made for them, accords with the more perfect business system which has been adopted in the seed division.

The law establishing the Department of Agriculture clearly states that the purchase and distribution of seed shall be confined to such seeds as are "rare or uncommon to the country," or "such as can be made more profitable by frequent changes from one part of our own country to another." The primary object of the distribution is to give increased value to production, to ascertain the best geographical distribution of varieties, and to introduce them more rapidly into the localities to which they are best adapted. The value of this interchange of seeds is greatly underestimated. Every plant has a natural habitat, which is limited in extent, and it is an established fact that when an attempt is made to grow it elsewhere it soon deteriorates and requires renewal from seed grown under the conditions of soil and climate most favorable for its perfect development.

This is not only true of grain, but applies to a larger extent to garden vegetables. This statement is corroborated by the large number of reports of experiments with the seeds sent out by this Department during the past two years. The remarkable yields reported must be mainly attributed to the use of fresh seed grown in localities where each variety attains its highest perfection.

A diminished production should not always be attributed to the deterioration of the soil alone, and the facts on record in this Department show that the introduction of seeds from regions where they attain the

greatest perfection has been of much importance to the country. In no way is this fact so forcibly impressed upon farmers as by furnishing them such seeds, for they will then be convinced by personal experiment. Every farm upon which these seeds are tested becomes an experiment farm so far as that particular product is concerned, if the farmer is intelligent and of an observing turn of mind.

While only a small quantity of any variety of seed was formerly sent to one locality, now instead of eight or ten varieties, not less than forty or fifty varieties are distributed in every Congressional district by the recently much improved system of distribution. The advantage of the test of so great a number of varieties must be apparent. By care on the part of the recipients to save and exchange, among their neighbors, seed of any choice varieties of grain or vegetables, the entire section of country can soon be supplied, and the increase in yield and quality may greatly enlarge the value of farm products.

Several new and valuable seeds have been introduced from foreign countries, and distributed during the fiscal year ending June 30, many of which are likely to prove of great value to the agricultural interests; among these are Egyptian clover (*Trifolium alexandrinum*), procured through the United States consul at Cairo, Egypt, and which it is thought may be a valuable addition to our forage plants in certain districts which are subject to protracted droughts, as in the Southern and Southwestern States, and also in the arid districts of the West. The seed has been distributed to various farmers and experiment stations for trial, and the results are being awaited with much interest.

An effort has also been made to obtain seeds of some other forage plants having the same adaptation, first, of spurry (*Spergula arvensis*); second, of a kind of winter pea, said to be much cultivated in France; and third, of the lentil (*Ervum lens*), which is cultivated in the south of Europe. Wheat has also been received from Italy; red and white Bermuda onion seed from the Canary Islands; Abyssinian grass from the Royal Gardens Kew, England; and potato seed from Belfast, Ireland. Several varieties of seed have also been received from the United States consuls in Mexico, and distributed in the localities to which they are evidently the best adapted.

Many choice varieties of tobacco seed have been received by the Department from foreign consuls, and promptly distributed in localities which were deemed the best adapted for their successful cultivation. Among these was a variety of Sumatra tobacco, which is attracting unusual attention and is eagerly sought by those who are actively engaged in increasing the area devoted to tobacco culture in Florida.

I desire again to call attention to the fact that Congressional lists should be furnished not later than December 15.

The seeds designed for distribution by members of Congress and to statistical correspondents, experiment stations, and agricultural societies

in the Gulf States, Arizona, New Mexico, and California should be sent out not later than the middle of December of each year.

The hearty co-operation which now exists between the seed division and the botanical, forestry, and the other divisions has been productive of results which, if continued, will do much to promote the practical value of each to the farmers throughout the entire country.

EXPERIMENT STATIONS FOR TESTING AND DISTRIBUTING SEED.

While I have endeavored to secure the greatest practical benefit to the farmers of the country under existing laws, as they relate to the seed distribution by the Department, yet it is my opinion that the object aimed at could be better secured through the experiment stations that were provided for by law at the last session of Congress. It will be remembered that a bill was passed providing for an annual appropriation of \$15,000, for the benefit of the experiment station of each State and Territory in the United States. The object of these stations is to experiment with seeds, plants, crops, fertilizers, systems of culture, etc., and to determine what is best for their respective State or Territory. The directors of such stations ought to know which kinds of seeds the farmers of their State are most interested in, which are best adapted to each locality, what crops are most profitable to raise, and to direct their investigations and experiments and selections to such kinds as their constituencies are most interested in.

These stations are under the control of scientific and practical men, assisted by skilled laborers. Careful records are kept in every line of work, and the comparative merits of different varieties as to thriftiness, hardiness, productiveness, and general adaptation to the climate and soil are ascertained and published, and are considered authoritative. With a little additional aid to these stations, if not already sufficiently provided for, to purchase seeds and plants and test the same, for their respective localities, and to distribute the seed from the same after ascertaining which are of real value to farmers, a most beneficial work for the farmers of every State could be accomplished. The stations could do the testing and experimental work for the whole body of agriculturists, and do it much better than farmers with but poor means for conducting such experiments. If this work of testing and distributing seed could be done by the stations, and the Department be relieved of this duty, it would enable it to work in other directions of great importance to the agricultural interests of the country. It is hardly necessary to state that it takes much of the time of the Commissioner, and that it is difficult to make distribution to give satisfaction to all parties, and to all parts of the country. While the germ of the Department of Agriculture was the seed distribution, it has grown until it now reaches into many fields of science, and many more lie beyond which as yet it has not had the time or means to enter.

FORESTRY DIVISION.

The modest appropriation available for this division naturally limits the field of its activity and the extent of its usefulness. Our people do not realize yet the importance of its work. There is scarcely an industry with which other industries of the country are more intimately connected than that which utilizes and manufactures the products of the forest, nor is there any other factor of climatic influences, within the power of human regulation, more important than the forest cover. The undeniable interdependence between forestry and successful agriculture calls for timely attention on the part of the people, and especially of the Government.

The idea of considering forest products as a crop, which, like other crops, can be cared for, improved, and reproduced, is still so new in our country that it seems difficult to persuade our people of its importance. When we consider the fact that this crop requires from twenty to one hundred years to mature, and that the sower rarely reaps the harvest, the comparative indifference of the grower and the need of stimulating reproduction are apparent. The original growth is being exhausted, and the new spontaneous crop, through the fault of man, is greatly inferior and smaller from the same area. Increasing needs of enlarging population can only be satisfied by proper care of the new crop, and by increasing the crop area.

Those engaged in the lumber industry and wood-using manufactures appear to be more or less unconcerned about their future supply, either because their interests are ephemeral, or because they lack a definite knowledge of total present demand and total visible supplies. With information as accurate as that in regard to other crops, prices for wood material would quickly rise to a level more adequately representing true values. In consequence, supplies would be better husbanded, more carefully protected, and more thoroughly utilized, and we would soon regard the forest as a valuable "heritage, not for spoil or to devastate, but to be wisely used, reverently honored, and carefully maintained."

The division has collected during the last year information in regard to the minor wood-using industries, and several reports are on hand for future publication.

Bulletin No. 1, on the relation of railroads to forest supplies and forestry, has found a most gratifying attention and interest among railroad managers, and I am glad to see, from the demand for this publication, that an important class of business men of the community have become interested in the subject, and seem to derive tangible benefit from the work of the division.

I urged in my last report the necessity for the Government to revise its legislation in regard to the forest lands remaining in its hands, especially in the mountain regions of the West. I repeat, that the present state of affairs works injury, increasing every year, to the mining as well as the agricultural interests of the country adjoining those

mountain forests, and the special forest legislation recommended is demanded by the people of those regions. To serve as a basis for such legislation, an exhaustive report on the forest conditions of the Rocky Mountains has been prepared by the division and is about to be issued as a separate bulletin.

In the absence of experimental grounds, without an arboretum, and without the aid of forest areas upon which to conduct directly practical experimentation, the work of the Division must consist mainly in collecting, sifting, and arranging information found scattered through our literature, and adding to it what may be elicited by correspondence. The study of the biology of our timber trees by expert agents is being continued, the reports upon the most important conifers being nearly ready for publication. These studies, if systematically and thoroughly carried on, would give answer to many questions of practical forestry.

While we may go on gathering opinions, a reliable basis for forest management can only be derived from exact methods of investigation. To establish the rate of growth of the different species under different conditions, upon which alone a true estimate as to their adaptability for profitable forest culture can be formed, numerous measurements must be made, which are expensive. The field of inquiry is large, the number of available expert observers limited, and the means for this work lacking.

Another most important line of inquiry which calls for special attention from the Division, are investigations into the structural differences of our important timbers, and the factors influencing their quality. Lacking this knowledge, a good deal of useful material is wasted, either by being applied to purposes for which inferior material might have been employed, or by remaining unused when it might have been usefully employed.

The distribution of plants has been mainly confined to coniferous trees, which, while most important in forest growing, do not find favor with the larger class of planters, on account of the care they need in transplanting and in raising from seed, and, therefore, encouragement in that direction is most needed. I have tentatively inaugurated a system by which I can supply seedlings directly from the nursery, thus insuring better success than could be obtained by trusting the seeds to unskillful treatment.

A considerable correspondence, in replies to inquiries, occupies much of the time of the office force of the division, and aids in enlarging the interest in the subject. Thus, the division while struggling to do justice to its technical needs, is called upon also to carry on a missionary work, in keeping that interest in the forestry question alive and growing, without which a reform in the forest policy of our country can not be expected. I most earnestly commend this question to the careful consideration of Congress, and recommend such legislation as is de-

manded by the importance of an interest which foreign governments have long since recognized in their administrative policies, and liberally provided for.

DIVISION OF MICROSCOPY.

The work of this division for the current year has been confined chiefly to microscopical investigations relating to the crystallography of butter, oleomargarine, and butterine, and for purposes of comparison the fats of wild and domestic animals.

The object of these investigations, primarily, was the discovery of a ready means of detecting butter-substitutes, of whatever description, as manufactured or sold in violation of law; and this the microscopist claims to have successfully accomplished.

This investigation of butter and fats has attracted wide-spread attention and interest, which have consumed an important part of the time of the division in answering inquiries, furnishing information, etc., and has led to new fields of exploration. Examinations are now being made in order to ascertain whether the butter crystals of imported and registered breeds of milch cows, or of pure breeds, but not entitled to registry under the rules of any association, so differ one from the other that they may be distinguished by means of the microscope under polarized light. The feed of the respective animals, in connection with the seasons, is also taken into consideration in these investigations. In some cases marked differences are said to be observed, and the microscopist will endeavor to illustrate these in a forthcoming report.

The investigation of the forms of the fatty crystals of animals, other than milch cows, may prove of interest, from a point of view other than that connected with their possible relation to butter; and a knowledge of the forms and other peculiarities of the crystals of the solid fats used in medicinal preparations, and in the arts and manufactures, may also prove of great value as a means of detecting adulterations in them. A large number of photographs of such crystals have been successfully made, showing in many cases marked divergencies of form. At first great difficulty was experienced in portraying some of the important details of these crystalline bodies, and other difficulties presented themselves in the reproduction of the photographs by any of the photo-mechanical processes known, but in consideration of the great interest manifested in this new scientific work, both in the United States and in Europe, a number of artists engaged in photography, and photo-mechanical reproduction of photography, have each endeavored to excel in the production of illustrations of this work, and it is hoped that a process of reproduction has been discovered which will enable us to fairly represent them and lead to a better understanding of these crystalline types than has heretofore been possible.

In addition to the work on these investigations, the microscopist has been largely called upon to make examinations of butter for the general public, and for wholesale and retail dealers in pure butter, who fre-

quently send samples to this division for examination before a purchase is made.

Dealers in oleomargarine have in like manner submitted samples for examination, their object being to protect themselves and the public against inferior goods of this kind.

The result of an investigation of palm fibers, undertaken by the division in the interests of a branch of the Navy Department, will appear with illustrations in the forthcoming annual report.

There have also been examined during the year the ultimate cell-structure of the following class of fibers: Combed manila hemp, pure manila yarn, Sisal hemp, pure Sisal twine, pure Mauritius aloe, Mauritius aloe hemp, and New Zealand hemp. This work was undertaken at the request of merchants, for the purpose of detecting fraudulent sales of mixed fibers of this character.

Illustrations of their respective forms are in preparation, and will be photographed for public purposes. While the fibers have a general similarity of form, differences in their respective diameters and in the angles of their terminal points may afford a means of discriminating between them.

Other investigations have been made in emergency cases, such as the examination of cream-puffs, confections, ice-cream supposed to have been poisoned, milk, drinking-water, etc.

A large correspondence has also been carried on with persons in various parts of the United States, Canada, and in European countries, in answer to inquiries relating to the general work of the microscopist.

POMOLOGICAL DIVISION.

This newly established division is subserving well the purposes for which it was organized; and there is abundant evidence that the assistance which it is affording to the fruit-growers of the country in stimulating and promoting our pomological industry is timely and that there was need of the establishment of such a branch in the Department. The division is now well under way, and it only needs a requisite encouragement to make it a successful and powerful auxiliary to the Department, and to give it a position commensurate with the interests which it is supposed to foster. I am glad to note that the division is receiving that co-operation from our fruit-raisers and from our leading pomological writers which is so desirable in the early days of organization. I believe that the division has been inaugurated under favorable auspices, and I commend its future to the careful consideration of Congress.

There are statistical and practical facts to be gathered for information; there are new fruits to be found and distributed; there are varieties to be investigated and their characteristics described; there are fruits in one section which may be introduced into another section with profit; there are methods of culture, of pruning, of general training of fruit-trees to be set forth; there are mistaken ideas of sites for fruit-

orchards to be corrected; there are varieties of fruits to be classified; the nomenclature of fruits requires attention and study; and in general there is a vast quantity of valuable information to be spread abroad.

The farmer who in these days of competition in one branch of agriculture turns his attention to another product of the farm as a source of profit is obeying an economic instinct and keeping step with the march of progress. Happily, this idea of diversification leads many into the line of fruit-growing. This desire to found an orchard on the farm, this purpose to produce fruit in greater abundance, should be encouraged in every way, and the latest and best information should be at hand for guidance in right paths and for warnings as against wrong ones.

A great many inquiries of a pomological nature have been received from farmers and other citizens of the country, and answered by direct correspondence where the reports of the Department would not give them the requisite information; and this work is steadily increasing in volume.

Packages of specimens of fruits have been daily received for identification or for comparison and study. These demand, and have received, the personal attention of the pomologist, and the increasing amount of this work requires a corresponding increase of assistance. The real service already rendered in this direction is considerable, although it has only just begun.

Accurate records and descriptions are made and kept of all specimens received, and in many cases drawings and colored illustrations are made of such varieties as are new or of special importance. These are used for publication in the reports of the division, or are kept for future reference. This work is of so much importance that the constant services of a skilled artist are necessary, and I hope to have funds appropriated for that purpose.

The progress already made, and the encouraging prospects for future usefulness are evidences of the wisdom of the establishment of this division.

THE DAIRY.

The work upon matters pertaining to this branch of the Department has been prosecuted during the year, but under discouraging conditions. The desire has been to obtain data sufficient to make comparisons of the several averages of production in the dairy States and sections. I regret to find an indisposition, however, on the part of those engaged in this great industry to respond with alacrity to our requests for information. The dairymen in every section are seeking individually what the Department can not supply, because of the lack of unity of interest among them as a class, in the efforts of the Department to secure statistics and facts of interest in this line of industry.

The Department will continue the investigation in this direction for a short time longer, in the hope that the above suggestion will result

in a willingness on the part of those interested to devote the required time and impart the desired information for the benefit of the whole. Otherwise I shall abandon the investigation.

GRAPE AND WINE PRODUCTION.

During the year there has been instituted inquiries into facts and figures relative to the grape and wine production of the country. Several circulars have been prepared, and fifteen thousand distributed among those engaged in these twin industries. I am encouraged to believe that this information, which will supplement that published by the Department some years ago, will be fairly complete to date and prove valuable to all concerned.

TEA.

In accordance with the provisions of law, the interests of the Government at the tea farm in South Carolina have been closed out during the year, the property has been properly disposed of and accounted for, and, in accordance with the terms of the lease, the custody of the farm has reverted to its owner.

ILLUSTRATIONS.

Science and art have reduced the question of illustration to a practical and economical solution, and it has become a valuable and almost indispensable adjunct to modern writings. There are now employed in the Department skilled draughtsmen and an engraver, in order that their work may be constantly under supervision, in its every detail, by those of our scientists who wish to illustrate their thought, their discoveries, or their work.

A single illustration, covering but a small part of a page, will often bring a subject clearly before the mind of man, where many pages of text and of figures would fall far short of making the vital point easily comprehended. The illustrations prepared by the Department appear in its various reports, and so far they are of incalculable value. But they contain information oftentimes which should be more widely disseminated than is possible through those reports. I therefore urgently recommend that the Public Printer be given authority and means to furnish to the agricultural press of this country, at the mere cost of the labor and material, electrotypes of such of the illustrations of this Department as may seem to the respective editors interesting and valuable to their readers.

It seems to me entirely proper that such action should be taken, as it would result in a wide and also prompt dissemination of information, now almost entirely confined to our editions, and hence their value is confined to a necessarily limited circulation.

Our printing fund is small. Five thousand copies is usually the utmost limit of an edition of a special report. The supply falls far short

of the demand in very many cases. Surely the plan I recommend would be the equivalent of a large edition, it would popularize the Department more and more, it would familiarize the people with what we aim to do, it would stimulate thought, it would promote the habit of closer observation, and, in short, it would greatly benefit those who receive little tribute at best in proportion to the part they assume in the progress, prosperity, and welfare of the country.

LABORATORY.

I renew my recommendation for the erection, on the grounds of the Department, of a laboratory, apart from the main building, and suitably equipped for the great number of scientific experiments annually conducted here, and for the purpose of entering into other fields which need investigation and can not be entered for want of facilities. The need of this building is most imperative; the Department's force and duties grow from year to year, but no adequate provision is made for the necessary space to keep pace with this natural and healthy development.

The business of the Department has now to be transacted, for the most part, in a small, illy-ventilated, inconvenient building, which is little else than a fire-trap in which public papers and valuable records and property are intrusted. In the basement of such a building is the chemical laboratory of this Department, damp, inconvenient for the purpose, dark, and unhealthy, and in the attic of the building is located the only laboratory for the investigation of animal diseases that our space will afford. The clerks above the basement are subject at all times to the sickening odors which proceed from chemicals and chemical analyses below, and are subject as well to the additional source of danger from fire and explosion; and because of the presence of these clerks in the building it is impossible to investigate in the laboratory in the attic some of the common diseases of animals which are contagious and dangerous to human life.

LIBRARY.

Every year since the establishment of the Department Congress has annually appropriated money for the maintenance of the library, for the completion of series, and for the purchase of scientific and other works, and yet the space for the storage of this vast and valuable collection remains the same as it was twenty years ago. A well-equipped library, systematically arranged and properly conducted, is an imperative necessity to any scientific institution—it is the fuel to the fire. For years the Department's works have been crowded into a room too small for the purpose, with no suitable place for preservation from insects and dust, or against loss and confusion, always in anticipation that it would be deemed wise on the part of Congress to relieve a condition of affairs here which in ordinary business would be corrected without

delay. I have been compelled to recognize these dangers, and in order to better systematize the library and to protect valuable public property, much of which can not be replaced, I have removed the museum objects from exhibition in the main building to another portion of the grounds, and am now engaged in removing the library to that floor, where it will have abundant room for many years to come. With a new laboratory building and with this change, the Department will be temporarily relieved of the present pressure for room, though the erection of a new and properly arranged Department building of a less inflammable character than the present one would still seem to be the part of wisdom.

WOOL AND COTTON.

It is gratifying to note that the report on wool, to which I referred in my first annual report, has been printed, and is now in process of distribution. It is an elaborate, valuable, and interesting report. In this connection I beg to renew the recommendation made in my last report relative to an incomplete and unpublished investigation upon the subject of cotton, of similar tenor and purpose. In response to a demand that other fibers than wool should be studied, the Department in 1883 and in 1884 caused to be collected for investigation a series of samples of cotton, as follows:

(1) Cotton produced under different known conditions of seed, soil, climate, and culture in all parts of the great cotton belt of the United States;

(2) Representative cotton from the different commercial grades of the several cotton markets;

(3) Cotton from different stages in various processes of manufacture.

The examination related to the length, fineness, strength, and elasticity, upon all of which the value of the staple depends. There have been some \$5,000 already expended in this examination, and I am assured that \$7,500 more will complete it. In view of the importance of this investigation, both to the producer and to the consumer of this great staple, it seems that the money already expended ought to have some return, and inasmuch as the total expense would be insignificant when compared with the results, I renew my recommendation of last year for authority and means to complete the work.

IRRIGATION.

Among the documents that have been prepared by the Department and printed directly by Congress is one on "irrigation," which has been completed during the present administration. This report, although fairly complete in itself, is principally suggestive of more comprehensive treatment of the subject in the future, as projected works are completed and more general extension of irrigation systems have been accomplished. The present work is already attracting wide-spread attention in those sections of our country where irrigation is relied upon.

Such extension, it is well understood, is limited by the amount of water available. It is true that as the cultivated soil receives the precipitation, however small the quantity, that formerly flowed over the impacted surface without penetration, the amount of irrigation necessary is lessened, and the application of water by irrigation further modifies the chemical and hygroscopic character of the seed-bed until less and less moisture is annually required. It is a reasonable supposition that ultimately some portion of the area now useless without irrigation may be productive with only the usual rain-fall which has proved insufficient heretofore. At least it may be expected that certain plants which thrive with minimum supplies of moisture may be cultivated successfully without irrigation in favorable locations, as the result of soil ameliorations by cultivation with temporary irrigation. Thus the ultimate extension of available tillage or meadow, through the labor of man and the bounty of nature, is difficult to foretell, and will doubtless greatly exceed the popular estimate. Then the adaptation of plants to these areas, so greatly modified in their capabilities, will offer a wide field for selection of profitable crops and for the successful introduction of many plants now unknown to our agriculture or grown to a limited extent.

When available supplies of water are exhausted there is still a resource that should command the early consideration of Congress—the building of reservoirs among the mountains for the storage of an immense volume of water which is now wasted in spring floods, causing in part the spring rise in the Lower Mississippi, sometimes so disastrous. Thus would the resources of the cultivators of the Rocky Mountain slopes be doubled, and the destruction of hundreds of thousands of acres of corn and cotton be obviated by the same beneficent measure, attesting its utility as well as its nationality and constitutionality.

FOLDING ROOM.

The following is a statement showing the number and kinds of documents received at and distributed from the folding room of the Department.

The Annual Report of the Department for 1886 has been printed during the current year, by order of Congress, 400,000 copies in number, of which 375,000 are held for distribution by Senators and members of the House of Representatives, and 25,000 copies assigned to this Department.

The Report of the Bureau of Animal Industry for 1886 has been printed during the current year, by order of Congress, 35,000 copies in number, of which 30,000 are held for distribution by Senators and members of the House of Representatives, and 5,000 copies assigned to this Department.

The report on wool and other animal fibers has also been printed during the current year by order of Congress, 10,000 copies in number, of

which 9,000 are held for distribution by Senators and members of the House of Representatives, and 1,000 copies assigned to this Department.

Other reports have been as follows :

DIVISION OF STATISTICS—NEW SERIES.

Number.

No. 36. Report on the crops of the year and on freight rates of transportation companies, December, 1886	15,000
No. 37. Report on the numbers and values of farm animals, the cotton crop and its distribution, and on freight rates of transportation companies, January and February, 1887	16,000
No. 38. Report on the distribution and consumption of wheat and corn, on the wheat production of the world, etc., March, 1887	15,000
No. 39. Report on the condition of winter grain and farm animals, and on freight rates of transportation companies, April, 1887	15,000
No. 40. Report on the condition of winter grain and progress of cotton planting, etc., May, 1887	16,000
No. 41. Report on the acreage of wheat and corn, and on freight rates of transportation companies, June, 1887	16,000
No. 42. Report on the acreage of corn, wheat, and tobacco, with condition of growing crops, etc., July, 1887	16,000
No. 43. Report on the condition of growing crops and on freight rates of transportation companies, August, 1887	16,000
No. 44. Report on the condition of crops in Europe and America, and on freight rates of transportation companies, September, 1887	16,000
No. 45. Report on the condition of crops, yield of grain per acre, labor prices in Mexico, and freight rates of transportation companies, October, 1887	16,000
No. 46. Report on yield of crops per acre, and on freight rates of transportation companies, November, 1887	16,000
No. 47. Report on the crops of the year, and on freight rates of transportation companies, December, 1887	16,500

There have been printed and sent to county correspondents eleven monthly circulars of 11,000 each, or 121,000, in the Division of Statistics, and monthly circulars to State agents aggregating 33,000.

BOTANICAL DIVISION.

Bulletin No. 2. Report on fungus diseases of the grape vine	5,000
Circular No. 4. Treatment of the potato and tomato for the blight and rot.	15,000
Bulletin No. 3. Report on grasses of the South	5,000
Bulletin No. 4. Desiderata on herbarium of North America	500
Report of the botanist for 1886, October, 1887	1,000
Report of the mycologist for 1886, October, 1887	500

CHEMICAL DIVISION.

Bulletin No. 13. Food and food adulterants—Part I, dairy products	10,000
Bulletin No. 13. Food and food adulterants—Part II, spices and condiments ..	5,000
Bulletin No. 13. Food and food adulterants—Part III, fermented alcoholic beverages	5,000
Bulletin No. 14. Experiments in the manufacture of sugar from sorghum at Fort Scott, Kans., February, 1887	10,000

954 REPORT OF THE COMMISSIONER OF AGRICULTURE.

Bulletin No. 15. Experiments in the manufacture of sugar at Magnolia Station, Lawrence, La., May, 1887	5,000
Bulletin No. 16. Methods of analysis of commercial fertilizers, feeding stuffs, etc.	3,000

POMOLOGY DIVISION.

Bulletin No. 1. Condition of tropical and semi-tropical fruits in the United States	10,000
Bulletin No. 2. Condition of Russian and other fruits	25,000
Circular No. 1. For the purpose of procuring reliable information of the grape-growing and wine-making industry of the country	15,000

ENTOMOLOGICAL DIVISION.

Bulletin No. 10. Onr shade trees and their insect defoliators, May, 1887	5,000
Bulletin No. 13. Observations and experiments in the practical work of the division, May, 1887	3,000
Bulletin No. 14. Reports of observations and experiments in the practical work of the division, August, 1887	3,000
Bulletin No. 15. Report on the Icerye on fluted scale, August, 1887	3,000
Bulletin No. 16. Entomological writings of Dr. Alpheus Spring Packard, October, 1887	3,000
Report of Entomologist of 1886, October, 1887	300

DIVISION OF ORNITHOLOGY.

Bulletin No. 1. Report on the English sparrow	10,000
Bulletin No. 2. Bird migration in the Mississippi Valley	4,000
Report of the Ornithologist for 1886, July	500

DIVISION OF FORESTRY.

Bulletin No. 1. Report on the relation of railroads to forest supplies and forestry, together with appendices on the structure of some timber ties, their behavior and the cause of their decay in the road-bed : on wood preservation, on metal ties, and on the use of spark arresters, October, 1887	5,000
Report of forestry division for 1886, August, 1887	1,300

MISCELLANEOUS REPORTS.

Addresses of Hon. Norman J. Colman, U. S. Commissioner of Agriculture, and Dr. D. E. Salmon, Chief of the Bureau of Animal Industry, delivered before the National Cattle Growers Convention held at Kansas City, Mo., October 31 and November 1, 2, 1881	5,000
Special 11. Proceedings of a convention of delegates from agricultural colleges and experiment stations, held at the Department of Agriculture October 18, 19, and 20, 1887	10,000
Report on irrigation in the United States	1,000

MISCELLANEOUS WORK OF THE FOLDING DIVISION.

Folding of letter jackets	25,000
Envelopes made, 10 by 14	600
Franks written	98,240
4,760 packages of envelopes and 2,580 quires of paper mailed to correspondents	7,340
Number of letters written	595

For the hearty co-operation which I have received from the chiefs of divisions of the Department; for the conscientious devotion to public duty which has characterized the record of its clerks; for the unyielding fidelity to its every interest which they have displayed, and for the efforts of all who have contributed to the progress of its administration, I desire to express my acknowledgments.

The history of another year, here briefly summarized, is to me a gratifying exhibit. It remains for another branch of Government to deal with the future of the Department as shall seem to redound to the benefit of our people and the wisest development of our agriculture.

Very respectfully, your obedient servant,

NORMAN J. COLMAN,
Commissioner of Agriculture.

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